2022-1620

United States Court of Appeals for the Federal Circuit

ACCELERON, LLC,

Plaintiff-Appellant,

– v. –

DELL, INC.,

Defendant-Appellee.

On Appeal from the United States District Court for the Northern District of Georgia in No. 1:12-cv-04123-TCB, Timothy C. Batten, Sr., Judge

CORRECTED NON-CONFIDENTIAL BRIEF FOR PLAINTIFF-APPELLANT

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AUGUST 10, 2022

PATENT CLAIM AT ISSUE

Claim 20 of U.S. Patent No. 6,948,021:

20. A computer network appliance comprising:

a hot-swappable CPU module;

a hot-swappable power module;

a hot-swappable ethernet switch module; and

a backplane board having a plurality of hot swap mating connectors; and

a microcontroller module and a dedicated ethernet path, wherein the dedicated ethernet path is separate from a switched fast ethernet connection and provides the microcontroller module with a connection to remotely poll the CPU module, the power module and the ethernet switch module;

wherein each of the CPU module, the power module and the ethernet switch module includes a hot swap connector for connecting with a specific hot swap mating connector of the backplane board.

Appx232 (10:18-33).

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

CERTIFICATE OF INTEREST

Case Number 2022-1620

Short Case Caption Acceleron, LLC v. Dell Inc.

Filing Party/Entity Acceleron, LLC

Instructions: Complete each section of the form. In answering items 2 and 3, be specific as to which represented entities the answers apply; lack of specificity may result in non-compliance. **Please enter only one item per box; attach additional pages as needed and check the relevant box**. Counsel must immediately file an amended Certificate of Interest if information changes. Fed. Cir. R. 47.4(b).

I certify the following information and any attached sheets are accurate and complete to the best of my knowledge.

Date: 08/10/2022

Signature: /s/ N. Andrew Crain

Name: N. Andrew Crain

1. Represented Entities. Fed. Cir. R. 47.4(a)(1).	**2. Real Party in Interest.** Fed. Cir. R. 47.4(a)(2).	**3. Parent Corporations and Stockholders.** Fed. Cir. R. 47.4(a)(3).
Provide the full names of all entities represented by undersigned counsel in this case.	Provide the full names of all real parties in interest for the entities. Do not list the real parties if they are the same as the entities. ☑ None/Not Applicable	Provide the full names of all parent corporations for the entities and all publicly held companies that own 10% or more stock in the entities. ☐ None/Not Applicable
Acceleron, LLC		Acceleron Management Group, LLC

☐ Additional pages attached

4. Legal Representatives. List all law firms, partners, and associates that (a) appeared for the entities in the originating court or agency or (b) are expected to appear in this court for the entities. Do not include those who have already entered an appearance in this court. Fed. Cir. R. 47.4(a)(4).

☐ None/Not Applicable ☐ Additional pages attached

Thomas Horstemeyer LLP	Dan R. Gresham	Cynthia J. Lee
Eric G. Maurer	Andrea P. Nguyen	Wesley A. Roberts

5. Related Cases. Provide the case titles and numbers of any case known to be pending in this court or any other court or agency that will directly affect or be directly affected by this court's decision in the pending appeal. Do not include the originating case number(s) for this case. Fed. Cir. R. 47.4(a)(5). See also Fed. Cir. R. 47.5(b).

☑ None/Not Applicable ☐ Additional pages attached

6. Organizational Victims and Bankruptcy Cases. Provide any information required under Fed. R. App. P. 26.1(b) (organizational victims in criminal cases) and 26.1(c) (bankruptcy case debtors and trustees). Fed. Cir. R. 47.4(a)(6).

☑ None/Not Applicable ☐ Additional pages attached

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CONFIDENTIAL MATERIAL OMITTED

The material redacted from this brief is subject to a protective order. The confidential information on pages 21, 22, 24, 26, and 27 relates to the operation of Dell Inc's products accused of infringement and has been designated as CONFIDENTIAL BY DELL INC.

TABLE OF AUTHORITIES

Cases

Statutes

Rules

STATEMENT OF RELATED CASES

No appeal from this civil action was previously before this or any other appellate court. This Court previously decided a cross-appeal from an *inter partes* review ("IPR") final written decision and an appeal from the IPR remand decision for the patent at issue in this appeal:

- *Dell Inc. v. Acceleron, LLC*, Nos. 2015-1513, -1514, 818 F.3d 1293 (Fed. Cir. Mar. 15, 2016) (Moore, Taranto, & Hughes, JJ.)
- *Dell Inc. v. Acceleron, LLC*, No. 2017-1101, 884 F.3d 1364 (Fed. Cir. Mar. 19, 2018) (Moore, Reyna, & Taranto, JJ.)

Counsel for Appellant Acceleron, LLC are unaware of any case pending in this Court or any other court or agency that will directly affect or be directly affected by the Court's decision in the pending appeal.

JURISDICTIONAL STATEMENT

The district court had jurisdiction under 28 U.S.C. §§ 1331 and 1338 and entered final judgment on September 23, 2021. Appx46. Amended judgments were entered on September 29, 2021 and March 21, 2022. Appx47; Appx138. The district court entered an order disposing of Appellant Acceleron, LLC's post-trial motion for judgment as a matter of law, motion for a new trial, and motion to alter judgment on March 7, 2022. Appx49. Acceleron, LLC timely appealed. Appx6394.

STATEMENT OF ISSUES

1. Whether the proper construction of the term "poll," as recited in claim 20, incorporates negative limitations that exclude communications that occur *after* an interrupt or a query; and whether this Court should reverse the decision granting Dell's motion for summary judgment of no infringement of claim 20 and denying Acceleron's motion for summary judgment of infringement of claim 20.

2. Whether the district court abused its discretion in denying Acceleron's motion in limine ("MIL") to exclude a non-prior art Ketris system constructed for trial and having materially different software as substantive or demonstrative evidence of a beta-version of the Ketris system that was allegedly publicly used or known before the priority date.

3. Whether this Court should reverse the district court's decisions granting judgment as a matter of law ("JMOL") of no willful infringement and denying

Acceleron's motion for a new trial based on the grant of JMOL of no willful infringement.

4. Whether this Court should reverse the district court's decision denying pre-suit prejudgment interest on the jury's lump-sum royalty award.

STATEMENT OF CASE

I. OVERVIEW OF THE PROCEEDINGS

On November 28, 2012, Acceleron filed suit against Dell for infringement of U.S. Patent No. 6,948,021 ("the '021 Patent"). Appx236. In response, Dell filed two petitions for *inter partes* review ("IPR"), and the litigation was stayed on August 7, 2013. Appx279. After a denial of one of Dell's IPR petitions, a partial-institution of the other petition, a cross-appeal of the IPR final written decision, IPR remand proceedings, and Dell's appeal of the remand IPR decision, the validity of claims 3 and 20 (the two claims at issue in the present appeal) was confirmed. *See Dell Inc. v. Acceleron, LLC*, 818 F.3d 1293, 1301 (Fed. Cir. 2016); *Dell Inc. v. Acceleron, LLC*, 884 F.3d 1364, 1370 (Fed. Cir. 2018).

On May 3, 2017, the litigation was reopened. Appx149. In the court's November 14, 2018 claim construction order, the court construed "poll(s)" as meaning "actively gathers information." Appx1773. However, in ruling on summary judgment, the court changed the construction of "poll(s)" to "actively gathers information using methods other than queries or interrupts" and held that the term

excludes communications that actively gather information following a query or interrupt. Appx13-14. Based on this new construction, the court granted summary judgment of no infringement of claim 20. Appx14. But in so ruling, the court did not address Acceleron's arguments that there was infringement even under the changed construction. Appx5676-5677.

On May 1, 2020, Acceleron filed an MIL to exclude from evidence a non-prior art Ketris 9000 computer system that Dell paid Bryn Forbes—one of Dell's fact witnesses and a self-described co-creator of the Ketris 9000 system—to build as a trial exhibit, which he did from components purchased on eBay between 2004 through 2008 (hereinafter the "Forbes-built Ketris 9000"). Appx5711; Appx5716; Appx5736-5741; Appx3090 (213:10-214:8); Appx2715 (391:9-16). Dell asserted that a beta-version of the Ketris 9000 system demonstrated at a trade show and on sales trips in the spring and summer of 2000 anticipated claim 20. Appx1790-1791.

The court allowed Dell to demonstrate the Forbes-built Ketris 9000 as a trial exhibit to allegedly show the jury the polling element of claim 20 despite the demonstration utilizing materially different software that did not exist before the '021 Patent's priority date. *See* Appx2708 (362:21-25); Appx2730 (449:6-9, 19-23); Appx3093 (225:25–226:13); Appx3116 (315:6-12). The Forbes-built Ketris 9000 operated in a materially differently manner than as described in the software manual for the version that existed and ran on the beta-Ketris 9000 at the time of the alleged

anticipatory public uses in 2000. Appx2720 (410:5-9); Appx2841-2842 (36:21-37:4, 37:24-38:4), Appx2853 (83:22-84:1); Appx8177, Appx8183; Appx3107 (279:24-280:13).

Despite these critical differences, the court denied Acceleron's MIL, ruling that Dell could introduce and demonstrate the Forbes-built Ketris 9000. Appx39. The Court's ruling enabled Dell to present testimony from Mr. Forbes and another Ketris co-creator, David Bottom, representing that the Forbes-built Ketris 9000 operated the same as the beta-Ketris 9000 from the spring and summer of 2000.

On September 8, 2021, an eleven-day jury trial commenced. Appx6398. At the close of Acceleron's case-in-chief, Dell moved for JMOL of no willful infringement based on the assertion that willfulness was a "high standard" and required "egregious" conduct. Appx7046-7049. The court granted Dell's motion and removed the issue of willfulness from the jury. Appx7049. Acceleron moved for reconsideration and, after trial, a new trial based on the granting of JMOL of no willfulness, but both motions were denied. Appx7488-7491; Appx49, Appx52-65.

On September 22, 2021, the jury returned a verdict finding infringement of claim 3 and that claim 3 was valid. Appx5908-5914. The jury also found that claim 20 was anticipated by the beta-Ketris 9000 at the 2000 trade show and/or sales visits. Appx5877; Appx5908-5914. The jury awarded $2.1 million in the form of a lump-sum royalty for Dell's infringement of claim 3 of the '021 Patent. *Id*.

After trial, Acceleron moved for an amended judgment to account for pre- and post-judgment interest. Appx5915-5928. The court denied Acceleron's request for prejudgment interest from the period before Acceleron filed suit in 2012, despite the parties' stipulation, and the jury being instructed that, the hypothetical negotiation would have occurred in 2005. Appx103-112.

II. THE '021 PATENT

The '021 Patent pertains to a system for enhancing fault tolerance and hot swapping in computer systems to avoid the inconvenience of shutting down the systems to replace defective components. Appx1531 (1:15-16 & 21-22). "In systems that do not support hot swapping of components, each process of component insertion and/or removal requires a complete shutdown of the entire system to prevent damage to other components or to the system." Appx1531 (1:31-34). "In time critical systems such as communications systems, system downtime is both a financial problem as well as a service quality problem." Appx1531 (1:34-37).

The '021 Patent explains that "[a] drawback of hot swapping, however, is it requires trained personnel to insert and/or remove components from a computer system to minimize damage" to system components. Appx1531 (1:39-41). Another drawback relates to the inability to pinpoint component failures versus overall system failures. Appx1534 (8:8-14).

The ’021 Patent overcomes these problems through a computer network appliance capable of enhancing fault tolerance and hot-swapping, thus reducing both system downtime and the need of trained personnel for repair and maintenance. *See* Appx1531 (1:53-57). The ’021 Patent claims a computer network appliance comprising a “hot-swappable CPU module, “a hot-swappable power module,” “a hot swappable ethernet switch module,” and “a backplane board having a plurality of hot swap mating connectors.” Appx1535.

Claim 20 also claims a “microcontroller module and a dedicated ethernet path” through which the microcontroller module is configured to “remotely poll the CPU module, the power module, and the ethernet switch module.” Appx1535. Through such polling, the computer network appliance can more quickly identify failures and facilitate timely fixes. Appx1534 (8:11-14).

III. THE ACCUSED PRODUCTS

The Dell products accused of infringement (“the Accused Products”) of claims 3 and 20 include the following server systems:

1. The 1855/1955 (“the 1855”);
2. The M1000e;
3. The VRTX;
4. The FX2/FX2s (“FX2”); and
5. The MX7000.

Appx5867.

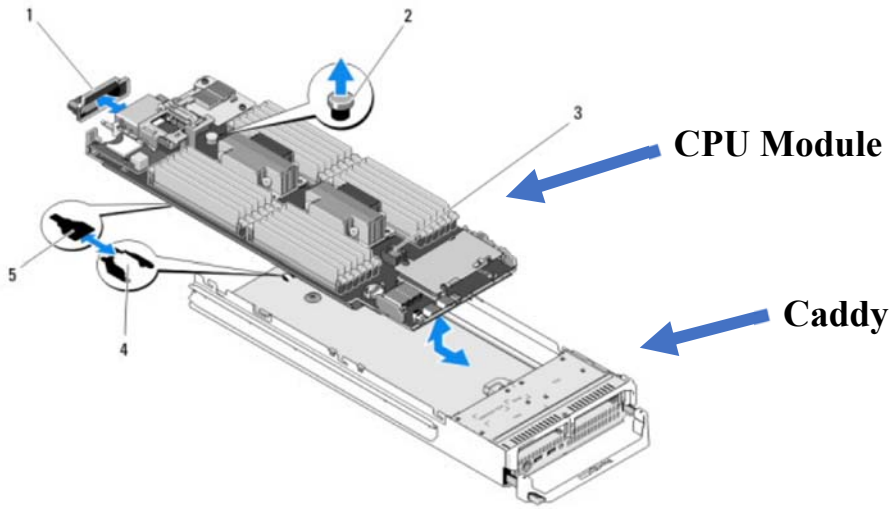
All Accused Products were accused of infringing claim 3, and all but the MX7000 were accused of infringing claim 20. Appx5380. The jury found infringement of claim 3 and rejected Dell's argument that claim 3 was anticipated by the Ketris 9000. Appx5909-5912. These findings are not appealed.

The jury was denied the opportunity to address willful infringement of claim 3 due to the in-trial JMOL ruling. Infringement of claim 20 was not before the jury because the court had granted summary judgment of no infringement on claim 20. Appx14. The jury found that claim 20 was anticipated by an alleged public use of a Ketris 9000 in 2000 and in view of the demonstration of the Forbes-built Ketris 9000 at trial. Appx5877; Appx5912.

Generally, the Accused Products are all "blade server" systems, which are modular server systems having multiple "blades" that insert into a chassis. Appx3504-3505; Appx3149; Appx3156; Appx3236; Appx3637; Appx3126. To illustrate, an M1000e is shown below:

Appx3141; Appx3713.

The jury found that the removable motherboards within the blades constitute the claimed "CPU modules" of the '021 Patent and that the blade enclosures in which the motherboards reside constitute the "caddies" of claim 3, as depicted below:



Appx8047.

The M1000e, VRTX, and FX2 products include a Chassis Management Controller ("CMC") that monitors and manages various components. Appx3994-3999 (¶¶33, 36, 39); Appx4107 (¶287); Appx4179 (¶485); Appx4179 (¶487).

Similarly, Dell's 1855 includes a module called the "DRAC/MC" that monitors and manages various other components. Appx4004 (¶45); Appx4376 (¶1022).

SUMMARY OF ARGUMENT

A. This Court Should Reverse the District Court's Construction of "Poll(s)" and the Grant of Summary Judgment of Non-infringement of Claim 20.

In construing the term "poll(s)," the court adopted Acceleron's proposed construction as meaning "actively gathers information." Appx1773. However, in ruling on summary judgment, and without prior notice, the court changed its construction of "poll(s)." Appx13-14. The court held that "[i]t simply does not follow that a poll can follow a query or interrupt; the three events are distinct processes." Appx13. Thus, the court changed the construction of "poll(s)" to mean "actively gathers information *using methods other than queries or interrupts*." Appx14 (emphasis added).

Modification of the construction was based solely upon the attorney-argument by Dell's counsel. There is no intrinsic or extrinsic evidence supporting the "using methods other than queries or interrupts" negative limitation, and admissions by Dell and its expert confirm that the court's new construction is incorrect. Because there is no dispute that a number of Dell products are configured to "actively gather[] information," Acceleron is entitled to summary judgment of infringement of claim 20 or at least a new trial applying the correct construction.

Nevertheless, even if the modified construction is affirmed, the court's summary judgment ruling should still be reversed. There remains at least a dispute of material fact as to whether Dell infringes claim 20 under the modified construction, which the court overlooked when ruling on summary judgment.

B. This Court Should Reverse the Decision Allowing Dell to Present a Non-prior Art Version of the Ketris 9000 that Is Materially Different from the Version Alleged To Be Prior Art.

To prove claim 20 invalid by anticipation due to alleged prior public use of the Ketris 9000, Dell was required to show that the alleged public use "met each of the limitations of the claim, and thus was an embodiment of the claimed invention." *Juicy Whip v. Orange Bang*, 292 F.3d 728, 738 (Fed. Cir. 2002) (quoting *Scaltech Inc. v. Retec/Tetra, L.L.C.*, 178 F.3d 1378, 1383 (Fed. Cir. 1999)).

In denying summary judgment of no invalidity based on the Ketris 9000, the court had held that there were two "separate and independent invalidating events" based on the beta-Ketris 9000, including: (1) display at a May 2000 trade show by David Bottom, and (2) summer 2000 sales visits by Bryn Forbes. Appx5708-5709. The court determined there was corroborated evidence from which a jury could find that the beta-Ketris 9000 system allegedly displayed during either of these two alleged prior public uses disclosed the element of polling over a dedicated ethernet path, as required by claim 20. Appx5709.

The court and its special master subsequently relied upon the same factual and legal errors in denying Acceleron's MIL, thus allowing Dell to introduce and demonstrate a non-prior art Ketris 9000 system at trial constructed by Bryn Forbes from components he purchased on eBay between 2004 and 2008 ("the Forbes-built Ketris 9000"). Appx5818-5819 (recommending denial of Acceleron's MIL 5 because the court had already "considered the same objections [in Acceleron's summary judgment motion] that Acceleron raises in this [MIL]"); Appx39.

However, the only evidence Dell presented regarding whether the Ketris 9000 satisfies the polling element was based on a physical inspection and analysis of the Forbes-built Ketris 9000 by Dell's expert and its subsequent demonstration at trial. *See* Appx5690-5691 ("[Dell's expert] relies on his inspection of the physical Ketris system determined [*sic*] whether the system polls the modules recited in claim 20 over a dedicated ethernet path.").

And crucially, the Forbes-built Ketris 9000 runs a materially different, non-prior art version 1.04 of the Ketris Manager software rather than the preproduction version .90 that existed and ran on the beta-Ketris 9000. *See* Appx2708 (362:21-25), Appx2730 (449:6-9, 19-23); Appx3093 (225:25-226:13); Appx3116 (315:6-12). Documentation describing Ketris Manager software version .90 specifies that data is received from system components using interrupts without polling. Appx2841-2842 (36:21-37:4, 37:24-38:4); Appx2853 (83:22-84:1); Appx8177; Appx8183.

Because there is no evidence, much less corroborated evidence, that the alleged prior art beta-Ketris 9000 system running software version .90 conducted polling as demonstrated at trial with the materially different, non-prior art Ketris 9000 built by Forbes, the court's admission of the non-prior art, Forbes-built Ketris 9000 system at trial as accurately representing the Ketris 9000 system "*as it existed prior to* the patent-in-suit" and demonstration thereof was clear error. Appx5689 (emphasis added).

C. This Court Should Reverse the Grant of JMOL of No Willful Infringement.

The district court granted JMOL of no willful infringement based on an incorrect legal standard—namely, that the standard for willfulness is "high" and that a finding of willfulness requires evidence that Dell's actions were "egregious." Appx7046-7049 (858:14-861:15). However, the standard for willfulness is not high and requires no more than deliberate or intentional infringement. Acceleron presented ample evidence to support a jury finding that Dell's infringing conduct over the course of 15 years was deliberate or intentional, and it was error to remove this factual issue from consideration by the jury.

D. This Court Should Reverse the Decision Denying Pre-suit Prejudgment Interest on the Jury's Lump-sum Royalty Award.

The Court should reverse the decision excluding prejudgment interest on the jury's lump-sum royalty prior to the date when Acceleron filed suit in 2012. This

case is not an exception to the general rule that the prejudgment interest on a lump-sum royalty award should be applied to the entire amount beginning on the first date of infringement, which the parties stipulated as being September 20, 2005.

ARGUMENT

I. THE DISTRICT COURT'S CONSTRUCTION OF "POLL(S)" AND GRANT OF SUMMARY JUDGMENT OF NO INFRINGEMENT OF CLAIM 20 SHOULD BE REVERSED

A. Standard of Review

This Court reviews claim constructions based on intrinsic evidence *de novo* and any findings of fact regarding extrinsic evidence for clear error. *Speedtrack, Inc. v. Amazon*, 998 F.3d 1373, 1378 (Fed. Cir. 2021) (citing *Teva Pharms. USA, v. Sandoz,* 574 U.S. 318, 331-32 (2015).

A summary judgment ruling is reviewed under the law of the regional circuit. *Lexion Med., LLC v. Northgate Techs.*, 641 F.3d 1352, 1358 (Fed. Cir. 2011). In the Eleventh Circuit, the grant or denial of summary judgment is reviewed *de novo. AEGIS Elec. & Gas Int'l Servs. V. ECI Mgmt.*, 967 F.3d 1216, 1223 (11th Cir. 2020). The evidence and inferences must be viewed in the light most favorable to the nonmovant. *Stein v. Ala. Sec'y of State*, 774 F.3d 689, 692 (11th Cir. 2014). Summary judgment is appropriate when "there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." FED. R. CIV. P. 56(a).

B. Overview of the Claim Construction and Summary Judgment Proceedings

In claim construction, the parties argued the following constructions of the term "poll(s)," as recited in claims 20 and 22:

Acceleron	Dell
"actively gather(s) information"	*"send(s) routine, periodic requests for health or status information to other modules in the system"*

Appx327; Appx467; Appx805; Appx838.

After Dell's expert agreed that a poll did not have to be "routine, periodic requests," and after Dell conceded at the *Markman* hearing that its "health or status information" limitation was improper, the special master recommended adopting Acceleron's "actively gather(s) information" construction. Appx1461. In his recommendation, the special master cited and rejected pure attorney argument made by Dell's counsel at the *Markman* hearing (and at the off-the-record technology tutorial) that there are "three modalities of getting information" and that "[t]he three are interrupt-driven, queries, and polling." *Id.* Dell had not previously made that argument, and there was no intrinsic or extrinsic evidence to support Dell's "three modalities" argument. Dell's new attorney-argument was at odds with Dell's briefing and its expert's testimony, which argued that a poll involved and required a "query." Appx839 ("polling involves a series of requests or *queries*" (emphasis added); Appx359 ("Polling Requires *Querying* Devices …;" "Polling is a technique

used to send a *query* for a device for information and is typically done in a methodical manner." (emphasis added)).

The court adopted the recommended "actively gather(s) information" construction, but misquoted a statement by the special master regarding the "three modalities" attorney-argument. Appx1773. The court subsequently corrected the quotation and affirmed its "actively gathers information" construction. Appx1775-1776 ("The construction of 'polls' remains 'actively gathers information.'").

Acceleron subsequently moved for summary judgment of infringement of claim 20 on the M1000e, FX2, and VRTX products. Appx3519-3523; Appx3524-3526. Dell moved for summary judgement that the same products and the 1855 did not infringe claim 20. Appx5393-5399. In arguing non-infringement, Dell asserted that a poll occurring *after* or *in response to* an interrupt (what Dell coined "interrupt-*driven* communications") and that a poll occurring *after* or *in response* to a user input (what Dell coined "query-*based* communications") was not a poll under the court's construction. Appx5394-5397. Dell relied upon the special master and court's statements referencing Dell's "three modalities" attorney-argument as mandating such an interpretation. *Id.*

In the R&R on the parties' cross-motions for summary judgment, the special master stated that "[t]he parties appear to [be] arguing only over which of their respective claim construction[s] is appropriate," and found that "[t]he appropriate

interpretation of the Court's claim construction of the term 'poll(s)' is the one advanced by Dell." Appx5632-5633. Based on this "interpretation of the claim construction," the special master recommended granting summary judgment of no infringement of claim 20. Appx5633.

In reviewing the R&R, the court found that "[w]hile the Court agrees that the R&R did not apply [the 'actively gather(s) information'] claim construction, the special master's outcome was correct." Appx13. The court further held—without citation to *any* evidence as support—that "[i]t simply does not follow that a poll can follow a query or interrupt; the three events are distinct processes." *Id.* Thus, the court "modifie[d] its claim construction in order to hold that the construction of 'poll(s)' is 'actively gathers information *using methods other than queries or interrupts*." *Id.* (emphasis added).

Under the court's changed construction, a "poll" could not *follow or use* a query or interrupt in any way. As such, the court granted Dell's motion for summary judgment of no infringement of claim 20 and denied Acceleron's motion for summary judgment of infringement of claim 20. Appx14.

C. The District Court's Revised Construction Adding Negative Limitations to "Poll(s)" Should be Reversed.

A claim term is generally given its plain and ordinary meaning as understood by a person of ordinary skill in the art. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (*en banc*). "We depart from the plain and ordinary meaning

of claim terms based on the specification in only two instances: lexicography and disavowal." *Hill-Rom Servs. Inc. v. Stryker Corp.*, 755 F.3d 1367, 1371 (Fed. Cir. 2014). "To act as its own lexicographer, a patentee must clearly set forth a definition of the disputed claim term other than its plain and ordinary meaning and must clearly express an intent to redefine the term." *Id.* (internal quotation marks omitted).

After the special master recommended construing the term "poll(s)" as "actively gather(s) information," Dell abandoned its "send(s) routine, periodic requests for health or status information" construction and argued instead that the term should be construed as meaning "actively gather(s) information using methods other than queries and interrupts" in view of the special master's comments on the "three modalities" attorney-argument. Appx1488-1489. Dell did not (and could not) identify any intrinsic or extrinsic evidence to support the addition of these negative limitations into the construction. *See id.* Although Dell was unsuccessful in persuading the court to adopt the negative limitations during claim construction, Dell later succeeded at summary judgment. Appx13-14. However, the new construction adopted by the court at summary judgment is incorrect.

Negative limitations must find support either in "the words of the claim" or through an "express disclaimer or independent lexicography in the written description that would justify adding that negative limitation." *Omega Eng'g. v. Raytek Corp.*, 334 F.3d 1314, 1323 (Fed. Cir. 2003); *see Eko Brands v. Adrian*

Rivera Maynez Enters., 946 F.3d 1367, 1381 (Fed. Cir. 2020) ("Negative limitations added during claim construction must find support either in the specification or the prosecution history."); *Linear Tech. Corp. v. ITC*, 556 F.3d 1049, 1060 (Fed. Cir. 2009) ("[B]ecause there is no basis in the patent specification for adding the negative limitation—excluding monitoring voltage—we hold that the Commission erred in construing this limitation."); *see also Emerson Elec. Co. v. Sipco, LLC*, No. 2021-1881, 2022 U.S. App. LEXIS 13202, at *3-4 (Fed. Cir. May 17, 2022) (rejecting negative limitation not supported by intrinsic evidence).

Here, there is nothing that justifies excluding actively gathering information "*using* … queries and interrupts" or "*follow[ing]* an interrupt or a query." The claim language does not preclude a poll from using or occurring *after* an interrupt or a query. Appx232 (10:24-29). Dell also did not identify any disavowal or lexicography in the specification or file history that supports the exclusion of actively gathering information using or following queries or interrupts. *See* Appx1488-1489.

With respect to the issue of interrupts in the court's construction, there is no dispute that a poll involves *actively* gathering of information, and that a poll is different from an interrupt. *See* Appx1488-1489. The fact that a poll is different from an interrupt does not mean that a poll cannot occur *after* or *in response to* an interrupt, or that a poll must be defined by what it is not.

With respect to the issue of a "query," it is not even clear what this term is intended to mean. During claim construction, Dell and its expert argued that a query was something that occurred when a poll occurred. Appx839 ("polling involves a series of requests or *queries*" (emphasis added); Appx359 ("Polling Requires *Querying* Devices …;" "Polling is a technique used to send a *query* for a device for information and is typically done in a methodical manner." (emphasis added)). However, after the claim construction order, Dell changed its definition of "query" such that it encompassed a user input and was not something that occurred when a poll took place. *See* Appx5396. Thus, not only are the negative limitations involving a "query" improper for lacking support in the intrinsic record, but they are also improper for the ambiguity they inject. *See U.S. Surgical v. Ethicon*, 103 F.3d 1554, 1568 (Fed. Cir. 1997) (purpose of claim construction is "to clarify" what is covered by the claims).

Dell's only supposed support for imposing the negative limitations are the comments by special master and court directed to the "three modalities of getting information." *See* Appx5393-5394. Notably, the court cited nothing to support adding the negative limitations. *See* Appx13-14. Instead, the source of the "three modalities" argument came from Dell's counsel without citation to any supporting evidence. *See* Appx1461 ("At the *Markman* hearing, *Dell's counsel stated that* 'there

are three modalities of getting information …' . *He went on to say that* ….” (citing Appx1048-1049); Appx1773; Appx1775-1776.

However, a construction based purely on attorney argument cannot stand. *See Enzo Biochem v. Gen-Probe*, 424 F.3d 1276, 1284 (Fed. Cir. 2005) (“Attorney argument is no substitute for evidence.”); *see also Va. Innovation Scis., Inc. v. Samsung Elecs. Co.*, 614 F. App’x 503, 511 (Fed. Cir. 2015) (“To the extent the district court’s construction relied on the parties’ arguments …, attorney arguments are not relevant intrinsic or extrinsic evidence.”). Therefore, this Court should reverse and adopt the court’s original construction, in which “poll(s)” is construed as meaning “actively gather(s) information”—without any negative limitations.

D. Under the Correct Construction of “Poll(s),” this Court Should Reverse the Decisions Granting Dell’s Motion for Summary Judgement of Non-infringement and Denying Acceleron’s Motion for Summary Judgment of Infringement of Claim 20.

Claim 20 recites that “the dedicated ethernet path … provides the microcontroller module with a connection to remotely poll the CPU module[.]” Appx232. This phrase was construed as “the microcontroller module being configured for remote polling via a communication path.” Appx1767.

Acceleron identified the following communications as instances showing the accused microcontroller modules polling CPU modules:

(1) M1000e/VRTX/FX2: the microcontroller module actively gathers information from a CPU module as part of [redacted] processing after a blade containing the CPU module is inserted into the system;

(2) M1000e/VRTX/FX2: the microcontroller module actively gathers information from a CPU module as part of a process to establish an [redacted] with the CPU module;

(3) M1000e/VRTX/FX2: the microcontroller module actively gathers information from a CPU module after receiving [redacted] from the CPU module;

(4) M1000e/VRTX/FX2: the microcontroller module actively gathers information from a CPU module in order to keep active an [redacted] between the microcontroller and CPU modules; and

(5) 1855: the microcontroller module actively gathers information from a CPU module after a user holds down a button.

Appx3520; Appx3524-3526; Appx3584-3589; Appx5395-5395.

Dell characterized communications (1)-(3) above as non-infringing "interrupt-driven" communications because the act of actively gathering information occurred *after or in response to* an interrupt. Appx5576; Appx5394. Dell argued that communication (5) above was a non-infringing "query-based" communication because the information was actively gathered *after or in response* to a supposed "query." Appx5396. For communication (4), Dell argued that it was not a "poll" because the microcontroller module allegedly did not gather information. Appx5582-5583; Appx5397. However, as discussed below, the "interrupt-driven" and "query-based" communications (1)-(3) and (5) constitute a "poll" under the proper construction, and communication (4) above constitutes a "poll" even under the existing improper construction.

1. The communications that Dell coined "interrupt-driven" communications are polls.

For communications (1)-(3), the accused microcontroller module actively gathers information by sending a request for information to the CPU module and receiving the information from the CPU module. Appx3584-3588; Appx4445 (80:19-81:9); Appx4446-4447 (85:21-86:1); Appx4443-4444 (73:20-74:12); Appx4529; Appx4452 (108:3-4); Appx4455 (121:4-6); Appx4540; Appx4119-4120; Appx4605; Appx4609 (1033-44). Dell argued these communications are not a "poll" merely because they occur "***after an interrupt***" and "the microcontroller module handles the interrupt by gathering information from the [CPU module] in response to the interrupt. Appx5395 (emphasis by Dell). However, as discussed above, the correct construction of "poll" does not exclude a poll that occurs *after* an interrupt. By conceding that "the microcontroller module handles the interrupt by gathering information from the [CPU module]" (Appx5395), Dell admits that its microcontroller modules "poll" the CPU modules when the correct construction is applied.

The testimony of Dell's Rule 30(b)(6) designee confirms that Dell's microcontroller modules "poll" the CPU modules, as required by claim 20. Specifically, when asked why Dell admitted in its responses to requests for admission that the microcontroller modules poll the ethernet switch and power modules, Dell's designee testified that Dell's microcontroller modules (called the

CMC) gather information from those modules *in response to* an interrupt. *See* Appx4434-4435 (36:15-37:2, 37:18-38:1, 38:18-24); Appx4441-4442(65:19-66:5), Appx4437-4438 (46:18-47:20, 49:12-22, 50:11-19). Dell's designee further testified that the microcontroller modules gather information from CPU modules using the "same mechanism" in which the information is requested and collected by the microcontroller module *after* an interrupt. Appx4445 (80:19-81:9); Appx4447-4448 (85:21-86:1).

Dell's documentation further confirms that the microcontroller module is configured to "poll" the CPU module. Dell's documentation explains that when the microcontroller module receives data (*i.e.*, an interrupt), the "[t]ypical response is *then* to *poll* the Blade" that contains the CPU module:

Appx4605 (§3.4) (emphasis added). Plus, source code for the M1000e/VRTX/FX2 states that the microcontroller module "[h]andles data by *polling* all blades to determine the cause:"

Appx4609 (1032-37). Moreover, product feature on which the active gathering occurs are *different and separate* from product feature on which the interrupt occurs, further

distinguishing the poll from the interrupt that it follows in the accused products. *See* Appx5465; Appx5334 (¶198); Appx4605 (§3.4).

Thus, when the "actively gather(s) information" construction is applied without the unwarranted negative limitations discussed above, there is no genuine dispute of fact that communications (1)-(3) constitute a "poll" and that claim 20 is infringed. Therefore, the court's decision granting Dell's motion for summary judgment of no infringement and denying Acceleron's motion for summary judgment of infringement should be reversed.

2. The communication that Dell coined a "query-based" communication is a poll.

In arguing that the 1855 product[1] does not infringe claim 20, Dell asserted that communication (5) did not constitute a "poll" because it supposedly "uses the query modality" because the microcontroller module requests information from the CPU *after* a user holds down a button. Appx5396-5397. As discussed above, it is improper to exclude from the scope of "poll" the active gathering of information merely because it occurs *after* a supposed "query." Additionally, Dell's documentation for the microcontroller module clearly describes the action that it takes as "*poll[ing]* CPU blades' current power state:"

[1] The M1000e, VRTX, and FX2 products are not accused of performing communication (5).

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Appx5443. Thus, it was error to grant summary judgement of non-infringement of claim 20.

E. Even under the Construction with Negative Limitations, It Was Error to Grant Summary Judgment on the M1000e, FX2, and VRTX because There Is a Dispute of Material Fact that the District Court Overlooked.

Even if the court's construction is affirmed, it was still error to grant summary judgment of no infringement of claim 20 because there remained a genuine dispute of material fact under the new construction of "poll(s)." As Acceleron explained in its objections to the special master's recommendation to grant no infringement of claim 20, the new construction of "poll(s)" did not dispose of infringement issues for communication (4) because it was undisputed that this communication did not use interrupts or queries and did follow an interrupt or query. Appx5676-5677.

Communication (4) involves the microcontroller module keeping [redacted] type of communication active between the microcontroller module and the CPU module by repeatedly and periodically sending "data" commands to the CPU module. Appx4628. document explains that the data command "is used to *retrieve* the [CPU module's] Hardware Revision, Firmware/Software Revision, and Sensor and Event Interface Command specification revision information. The command also *returns* information regarding

the additional 'logical device' functionality[.]" Appx4719 (emphasis added). Acceleron's technical expert explained that the sending of periodic data commands "to retrieve information from the [CPU modules] constitute additional acts of actively gathering information." Appx4118-4119 (¶309).

Dell disputed infringement based on communication (4) because its expert opined that, although the microcontroller sends commands requesting information to the CPU module, information is supposedly not gathered by the microcontroller module. Appx5397. However, Acceleron explained that at least a dispute of fact existed because the document states that data is "retrieve[d]" and Dell's Rule 30(b)(6) designee testified that the CPU module does, in fact, "respond" with the information that the microcontroller module requests. Appx5467; Appx4454 (114:16-24). Acceleron also pointed out that source code for the microcontroller module contradicted Dell's expert's conclusion. Appx5467 (citing Appx5372 (411)).

Nevertheless, the court overlooked that there remained a genuine dispute of material fact and granted summary judgment based on the changed construction of "poll(s)." *See* Appx14. Because there remains a dispute of material fact as to whether Dell's M1000e, VRTX, and FX2 products "poll" under the "actively gather(s) information" *and* the "actively gather(s) information using methods other than

queries or interrupts" construction, this Court should reverse the decision granting Dell's motion for summary judgment of no infringement of claim 20.

II. THE COURT ABUSED ITS DISCRETION BY ADMITTING AND ALLOWING DEMONSTRATION OF A NON-PRIOR ART KETRIS 9000 SYSTEM RUNNING MATERIALLY DIFFERENT POST-PRIOR ART SOFTWARE

A. Standard of Review

In the Eleventh Circuit, orders denying MILs are reviewed for abuse of discretion. *Luxottica Grp., S.p.A. v. Airport Mini Mall, Ltd. Liab.*, 932 F.3d 1303, 1311 (11th Cir. 2019) (citing *Kropilak v. 21st Century Ins.*, 806 F.3d 1062, 1067 (11th Cir. 2015)). Under that standard, a district court's ruling may be reversed "if the court applie[d] an incorrect legal standard, follow[ed] improper procedures in making the determination, or ma[d]e[] findings of fact that are clearly erroneous," resulting in a "substantial prejudicial effect." *Id.* (citing *Goldsmith v. Bagby Elevator Co.*, 513 F.3d 1261, 1276 (11th Cir. 2008)).

B. Statement of Facts

The Ketris 9000 was a modular computer system developed in 1999 and 2000 by Ziatech Corporation. Appx2711 (374:6-7), Appx2739-2740 (487:21-488:5). Dell alleged that claim 20 was anticipated based on an alleged public use of a Ketris 9000 system at a 2000 trade show by David Bottom, a Ziatech employee and one of the co-creators of the Ketris 9000 system. Appx1790-1791; Appx1923. Dell also separately alleged that claim 20 was anticipated based on the Ketris 9000 system having been "publicly displayed, publicly operated, and offered for sale … during

multiple Ziatech sales trips during May through August of 2000 by at least Bryn Forbes," another Ziatech employee and co-creator[2] of the Ketris 9000 system. Appx1790-1791; Appx1923.

As allegedly corroborating evidence of prior public use of the Ketris 9000 system from the spring and summer of 2000 by Mr. Bottom ("Bottom") and Mr. Forbes ("Forbes"), Dell paid Forbes to attempt to re-construct a physical Ketris 9000 system for this litigation from components he had bought on eBay between 2004 and 2008 (hereinafter "the Forbes-built Ketris 9000"). *See* Appx3040 (17:3-10)[3]; Appx2709 (366:12-367:8), Appx2715 (390:4-391:16); Appx3088 (203:20-204:10, 205:11-16), Appx3090 (213:10-214:8); Appx8130-8131. In its invalidity contentions, Dell relied on assertions by Forbes that the Ketris 9000 he built operated the same way as the preproduction beta-Ketris 9000 allegedly publicly displayed in 2000. *See* Appx1923 (citing Appx3054 (p74); Appx3100 (p253)).

Initially, the Ketris 9000 was to include a "dedicated management card" hardware "that would fulfill the tasks of managing all the devices in this chassis."

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[2] In describing his contribution to the Ketris 9000 system, not only did Forbes characterize himself as one of the creators of the Ketris system (Appx2739-2740(487:24-488:5) (identifying creators of Ketris as including "myself")), but he also disagreed that Bottom alone was *the* creator of the Ketris system. Appx2740 (488:8-13) ("Q. Would you have basis to agree or disagree with Dave Bottom being the creator of Ketris? A. I would disagree.").

[3] The Forbes-built Ketris 9000 that Forbes constructed for trial was Forbes Depo. Ex. 1 pretrial and became DTX 717 at trial. Appx8277.

Appx2840 (29:11-30:5). However, "late in 1999" after learning that an Ethernet switch chip "was being developed that would allow [Ziatech] to build into the system multiple redundant switch cards," Ziatech abandoned the dedicated management card. Appx2840 (29:24-30:2) Appx2841 (33:1-11). Rather than designing a dedicated management card, Ziatech decided instead to "build a piece of software that would run on any and all of the server blades plugged into the chassis" to perform system management functions. Appx2840 (29:24-30:12).

The software became known as the Ketris Active Manager software and was written by a third-party company, since Ziatech did not have the resources to write the code. Appx2886 (216:8-17). Indeed, Bottom confirmed that he did not write the Active Manager software code. *Id.* Likewise, Forbes acknowledged he only worked on the Ketris Active Manager software "very briefly" and that he did not write the source code for any data collection operations performed by the software. Appx3104 (267:1-5) ("A. I did not write the Ketris Manager source code for polling."). Mr. Forbes also admitted that no source code exists for the Ketris Active Manager software. Appx3103 (266:20-25).

Instead of working on the Ketris Active Manager software, through most of 1999 into the Spring of 2000, Forbes focused on an unrelated software project to enable remote deployment of operating systems on the Ketris system. Appx2718 (400:9-13, 403:6-11) ("A. I started working on the deployment manager project

[around October, November time frame of 1999]. … Q. When was the deployment manager software completed? … Q. So between March and June of 2000? A. Yes."). Additionally, Forbes "transitioned away from working on … [the Ketris 9000 system] around the end of 2000." Appx3116 (315:6-12).

According to Forbes, the Ketris 9000 developed for both the May 2000 trade show and demonstrated thereafter through the summer of 2000 was a *pre*production beta version. Appx2720 (410:5-14); Appx2719 (404:3-5, 22-23) ("[F]or the bulk of the project, the beta release was for – the deadline was for Networld Interop" trade show "in May of 2000."). Regarding the Ketris Active Manager software (also referred to as "the Ketris management software") that was developed during that time, Forbes identified it as beta version .90. Appx2720 (410:5-9, 410:20-411:5) ("The first beta version was .90."). According to Forbes, the first production release version 1.0 of the Ketris management software was not created until "towards the end of the summer of 2000"; however, no record evidence exists on any of its features or functionality. Appx2720 (411:10-13).

Bottom explained that the Ketris management software in existence as of the May 2000 trade show (*i.e.,* version .90) was accurately described in the Ketris System Management Software Manual. *See* Appx2841-2842 (36:21-37:4, 37:24-38:4), Appx2853 (83:22-84:1); Appx8177, Appx8183. Regarding how data was collected, the manual specifies use of interrupts without polling. *See* Appx8183

("Since many of the system's environmental devices are able to *generate an interrupt* when a threshold has been exceeded, user interaction can occur instantly ***without the overhead of polling*** the device on a frequent basis.") (emphasis added). Forbes explained the meaning of this sentence in the manual as "stating that we use a more efficient method of data collection for some of the system's data collection points. So it's telling the user that there's less CPU devoted for the items that can be collected via interrupt." Appx3107 (279:24-280:13).

After the '021 Patent's November 16, 2000 priority date, Intel (who acquired Ziatech in October of 2000) released version 1.03 of the Ketris management software on December 22, 2000. Appx2670-2675; Appx2726 (434:20-435:18), Appx2728 (443:8-19); Appx7336 (22-24). Other than the release notes, there is no record evidence of the source code or any other description of version 1.03 of the Ketris management software. *See* Appx2670-2675.

There is no dispute that the Forbes-built Ketris 9000 does not include or run version .90 of the Ketris management software. Forbes even testified that he tried to get version 1.03 to run on it when building it. Appx2708 (362:6-25). But after failing to get it to work, Forbes resorted to the even later version 1.04, which was not released until *after* December 22, 2000—*after* Forbes left Ziatech and transitioned off the Ketris project. Appx2708 (362:21-25), Appx2730 (449:6-9, 19-23); Appx3093 (225:25-226:13), Appx3116 (315:6-12); Appx7337 (19-24).

In conducting his inspection of the Forbes-built Ketris 9000, Dell's expert only examined version 1.04 of the software. Appx2938 (146:10-13) ("Q. How many versions of Ketris Active Manager Software have you utilized in your analysis? A. Active Manager? I believe I only used 1.04."). Dell's expert admitted that he had never inspected version 1.03 or any earlier version, including beta version .90. Appx2938 (146:10-13, 148:9-12).

Regarding version 1.04 that he did inspect on the Forbes-built Ketris 9000, Dell's expert concluded "that the Ketris Manager software of the Active Manager polls, *inter alia,* the CPU module, the power module, and the ethernet switch module," as recited in claim 20 of the '021 Patent. Appx2440 (¶401). To reach this conclusion, Dell's expert explained that he had to use "a logic analyzer to verify that the Active Manager is configured for remote polling via a communication path." Appx2433 (¶390). Dell's expert explained that the logic analyzer was necessary for "tracing signals" on the circuit boards of the eBay Ketris 9000 to "watch[ ] the traffic" to identify "master" and "slave" devices because "this information is not available in the documentation." Appx2433-2437 (¶¶390, 395, 396 & 398). Dell's expert even went so far as to state that "[t]he ***only*** way to verify that the Active Manager is configured for remote polling via a communication path in the Ketris 9000 system that I inspected [*i.e.*, eBay Ketris 9000] is to physically inspect the

system and to analyze the communication path during the polling process." Appx2434 (¶392) (emphasis added).

Neither Forbes nor Bottom inspected the beta-Ketris 9000 system running version .90 of the Ketris management software with a logic analyzer. However, they did confirm that the Ketris management software manual from the May 2000 trade show (corresponding to version .90 and specifying use of interrupts without polling for data collection) accurately described the beta-Ketris 9000 system. Appx2853 (83:22-84:1); Appx5548 (¶34) (citing Appx3060 (97:10-14)).

Consequently, in its MIL, Acceleron moved to exclude the Forbes-built Ketris 9000 as substantive or demonstrative evidence of the beta-Ketris 9000 allegedly publicly used or known in the spring and summer of 2000 due to material differences between the two systems. Appx5736-5741. Acceleron argued that the jury would be misled and confused if the Forbes-built Ketris 9000 was admitted and then characterized as operating the same as the beta-Ketris 9000 system, when in fact the two systems are materially different. Appx5736-5741.

In opposition, Dell pointed to Forbes's and Bottom's high-level claims that the Forbes-built Ketris 9000 and the preproduction beta-Ketris 9000 "have the same software functionality" "with no material differences." Appx5773. However, Dell avoided reference to the Ketris Manager Software Manual for the version .90 that specifies use of interrupts for data collection without polling. *Id.*; *see* Appx8183.

Dell also avoided mentioning that Bottom acknowledged he had not discussed polling at the May 2000 trade show because that feature had not been implemented. *See* Appx2894 (245:7-14) ("I don't believe so because I don't believe that had been implemented since it was a brand-new item just days before."). Bottom further described polling as one of the "Features to be released" when describing the "Switch Manager" block in a software block diagram. Appx2887 (219:13-220:4) (describing the software block diagram at Appx2690). Bottom explained that "Features to be released" in the software block diagram meant "additional software that will be released in the future" versions of the Ketris 9000 system. Appx2885 (211:23-212:10).

Nevertheless, in recommending denying Acceleron's MIL, the special master relied upon the court's prior denial of Acceleron's motion to strike Dell's invalidity contentions regarding the Ketris 9000 system pursuant to IPR estoppel, 35 U.S.C. 315(e)(2). Appx5818. There, Acceleron had contended that Dell's reliance on "the functionality of the physical [Ketris] system [was] merely redundant of the functionality described in" the Ketris 9000 documentation. Appx2253. In opposing the motion to strike, Dell had argued that the Forbes-built Ketris 9000 system was a "superior and separate reference" to the Ketris documentation and that its expert "relie[d] on his inspection of the physical Ketris system to determine whether the

system polls the modules recited in claim 20 over a dedicated ethernet path."[4] Appx5424.

Despite finding it to be a "close question," the district court denied Acceleron's motion to strike based on this Court's decision in *Meyer Intell. Prop. Ltd. v. Bodum, Inc.*, 690 F.3d 1354, 1377 (Fed. Cir. 2012). The district court characterized *Meyer* as "the only authority provided to the Court (and the only authority the Court has found)" addressing the issue, and held that *Meyer* supported "allow[ing] parties to rely on physical systems that post-dated the priority date to show the product *as it existed prior to* the patent-in-suit." Appx5689 (emphasis added). Accordingly, the special master recommended denial of Acceleron's MIL based on the court's prior ruling "that 'Dell may rely on physical systems even if they do not pre-date the priority date.'" Appx5818 (quoting Appx5689).

Acceleron objected to the special master's recommended denial of its MIL. *See* Appx5842-5846. Acceleron again addressed the material differences between the beta-Ketris 9000 system and the Forbes-built Ketris 9000 with reference to prior briefing where it had explained the relationship between the material hardware and software differences between the two systems. *See id.* (citing Appx5738-5739 and

[4] Dell's expert actually stated in his report that the Ketris Manager Software Manual was "consistent with" his inspection (Appx2436 (¶397)); however, at trial, he contradicted himself about the manual and admitted that "Ketris got their documentation wrong." Appx7623 (14-24).

Appx5800-5801). Nevertheless, the district court denied Acceleron's MIL, stating that "any issues that Acceleron has raised with regard to the Ketris unit can be appropriately addressed through cross examination, and admission of the unit would not be unduly prejudicial or confusing." Appx39.

As such, the district court clearly erred in its legal and factual conclusions, which severely prejudiced Acceleron by allowing Dell to introduce and demonstrate the Forbes-built, Ketris 9000 trial exhibit to the jury.

C. The District Court Misinterpreted this Court's *Meyer* Decision as Supporting Admission of a Non-Prior Art System that is Materially Different From the Alleged Prior Art System.

In *Meyer*, Bodum proffered its longtime CEO to testify that the version of the Bodum 3-Cup French Press it sought to introduce into evidence was an accurate example of the product as it existed prior to the patents-in-suit. *Meyer,* 690 F.3d at 1377. Bodum sought to have its CEO testify that the design of the post-priority date 3-Cup French Press had "not changed in any material respect" since before the priority date of the patents-in-suit. *See id.*

To corroborate its CEO's testimony, Bodum offered drawings of the carafe and pages from its catalogs—all of which predated the patents-in-suit—to show that the 3-Cup French Press had the dimensional requirements and plunger disclosed in the patents-in-suit, and that those features were also present in the model that

predated Meyer's patents. *Id.* However, the district court excluded this testimony and the corroborating drawings and catalog pages. *Id.* at 1376.

Based on the "simplicity of the technology involved," this Court held that the district court abused its discretion in excluding the CEO's fact-based testimony, the post-priority date 3-Cup French Press, and the documents that predated the patents-in-suit offered to show no material differences between the pre- and post-priority date French Press devices. *Id.* at 1377. This Court found no problem with Bodum's CEO testifying as to facts "supported by corroborating documents" reflecting that the 3-Cup French Press was indeed "an accurate example of the product as it existed prior to the patents-in-suit" that "ha[d] not changed in any material respect." *Id.*

Unlike in *Meyer,* the evidence of record demonstrates clear material differences between the prior-art beta-Ketris 9000 system and the post-dated Forbes-built trial exhibit. In particular, the differences in how data is collected by version .90 of the Ketris management software on the beta-Ketris 9000 system versus the post-prior art version 1.04 of the software on the Forbes-built Ketris 9000 are critical and unduly prejudicial to the jury's finding that claim 20 is anticipated by the Ketris 9000 system. Specifically, the Ketris Management Software Manual for beta version .90 on the beta-Ketris 9000 system specifies use of interrupts for data collection without polling. *See* Appx8183 (verified by Appx2853 (83:22-84:1) & Appx5548 (¶34)(citing Appx3056 (84:15-18) & Appx3060 (97:10-14))). Conversely, Dell's

expert physically inspected the post-prior art, Forbes-built Ketris 9000 running software version 1.04 with a logic analyzer and concluded that it does not collect data via interrupts like the manual specifies for version .90, but instead polls as claimed in the '021 Patent. Appx2433 (¶390), Appx2434 (¶392), Appx2440 (¶401). These materially different data collection techniques in versions .90 and 1.04 negate application of *Meyer*.

Also, the data collection process itself is not simple technology like the easily observable physical plunger mechanism and 2:1 height-to-diameter ratio features in *Meyer*. *See Meyer*, 690 F.3d at 1377. Because "the only way to verify" the presence of polling on the Forbes-built Ketris 9000 running software version 1.04 was for Dell's expert to conduct a complex inspection using a logic analyzer, application of *Meyer* is further negated. Appx2433-2434 (¶¶ 390 & 392). Execution of non-human readable computer code deep within a microprocessor does not constitute simple technology.

Crucially, neither Dell's expert nor either of Bottom or Forbes performed any similar such inspection or test on version .90 on the beta-Ketris 9000. In fact, no such software was introduced at trial or is even claimed to still exist. Both Forbes and Bottom also confirmed that they did not write the source code for version .90 or any of the other versions of the Ketris management software related to data collection. Appx2886 (216:8-17); Appx3104 (267:1-5).

Plus, since Forbes and Bottom claim to be creators of the Ketris 9000 system, both are interested witnesses, and their uncorroborated testimony cannot bridge the gap between version .90 and post-priority version 1.04. *Finnigan Corp. v. United State ITC*, 180 F.3d 1354, 1368-69 (Fed. Cir. 1999) ("A witness who testifies to antedating the invention of the patent-in-suit can be expected to derive a sense of professional or [personal] accomplishment in being the first in the field, and in this sense is not uninterested in the outcome of the litigation, even if that witness is not claiming entitlement to a patent."); *Lacks Indus. v. McKechnie Vehicle Components USA*, 322 F.3d 1335, 1350 (Fed. Cir. 2003) (testimony of one interested witness cannot be used to corroborate that of another).

Finally, since "the only way to verify" polling was through a test, and no test was ever performed on the beta version .90 software, Forbes's and Bottom's testimony that the Forbes-built Ketris 9000 trial exhibit running version 1.04 is an accurate representation of the polling capability of version .90 software is unsupported. Thus, unlike Bodum's CEO, who had personal knowledge of the simplistic and easily observable mechanical features of the 3-Cup French Press, none of Bottom, Forbes or Dell's expert has any personal knowledge establishing that version .90 of the Ketris management software that ran on the beta-Ketris 9000 collects data by any method other than as the manual specifies, which is through the use of interrupts without polling. *See* Appx8183. Therefore, the court abused its

discretion by misapplying *Meyer* to admit the Forbes-built Ketris 9000 into evidence, which allowed Dell to represent to the jury that it polls in the same way as the beta-Ketris 9000 system supposedly did when the beta-Ketris 9000 does not even poll but instead uses interrupts.

D. The District Court Erred in Finding Forbes' Testimony Corroborated by the Ketris Manager Software Manual Based on the Document Itself and Confirmation by Dell's Expert that It does Not Disclose Polling.

In recommending denial of Acceleron's MIL, the special master also quoted the district court's prior ruling on Acceleron's motion for partial summary judgment motion of no invalidity regarding the Ketris 9000 system, where the court found that Dell had presented "some corroborating evidence," that the Ketris system was publicly displayed. Appx5819 (quoting Appx5709); Appx39. There, the court had found the "Ketris manager software manual documents the ability of the Ketris software to poll the status of the ethernet switchblade and was available at the conference." Appx5708. The district court had also relied on Forbes's testimony that "the documentation accurately describes the functionality of the Ketris system used during his sales visits" in the summer of 2000. *Id.*; *see also* Appx5548 (¶34).

However, the court's finding about the Ketris Manager Software Manual documenting "the ability of the Ketris software to poll" is incorrect. Indeed, as the following excerpt from Dell's Invalidity Contentions for the Ketris 9000 shows, the Ketris Manager Software Manual plainly states that interrupts are used for data collection without polling:

> **Data Collection**
>
> The data collection component Ketris Manager is responsible for gathering information and monitoring the hardware for out-of-threshold values. Since many of the system's environmental devices generate an interrupt when a threshold has been exceeded, user notification occurs instantly without the overhead of regularly polling the devices.
>
> Ketris Manager Software Manual at 7-8:

Appx1237; Appx2049 (annotated).

Dell's expert agreed at trial that this excerpt specifies use of interrupts for data collection rather than polling. *See* Appx7569 (3-7) ("If I just took a casual look at the document, I might say, well, it is doing interrupts and that would not fit the Court's construction" for polling.). Therefore, the court made a clearly erroneous finding of fact regarding the Ketris management software manual for version .90 running on the beta Ketris 9000, which formed the basis of denying Acceleron's MIL.

E. Invalidation of Claim 20 at Trial Based on the Wrongful Admission of the Materially Different Forbes-Built Ketris 9000 Trial Exhibit Caused Substantial Prejudice.

Evidentiary rulings may be overturned in the Eleventh Circuit upon a showing of a substantial prejudicial effect, that is, an effort affecting a substantial right of a

party. *See Goldsmith,* 513 F.3d at 1276; FED. R. EVID. 103; *see also* FED. R. CIV. P. 61. Invalidation of a patent claim affects a party's right to assert infringement of the patent. *See* 35 U.S.C. § 281.

At trial, the court's denial of Acceleron's MIL to exclude the Forbes-built Ketris 9000 caused substantial prejudice to Acceleron, since claim 20 was invalidated on the basis of Dell's demonstration using Forbes-built Ketris 9000. Appx137-138. Its admission misled the jury into believing that the materially different, post-prior art version 1.04 of the Ketris management software is the same as the beta-Ketris 9000 with its version .90 when it is not. Both Bottom[5] and Forbes[6] repeatedly claimed at trial (without corroboration) that the Forbes-built Ketris 9000 trial exhibit appeared to operate in the same way as the beta-Ketris 9000 and its

[5] Appx7253 (14-16) ("Q. Does [the Ketris 9000 at trial] *operate in the same way* as the ones you demonstrated in Las Vegas? A. Yes."); Appx7257 (17-20) ("Q. Now, the DTX 717[Ketris 9000] that we have sitting in the courtroom today, does it *operate in the same way* as the one that you showed to customers at NetWorld Interop in May of 2000? A. Yes, it does."); Appx7330 (6-10) (Q. "Now, is it your belief that the system sitting in here today before the jury *operates in the same way* with the same functionality as the one that you demonstrated in Las Vegas in May of 2000? A. Yes.").

[6] Appx7365 (16-19) ("Q. Did the Ketris 9000 that you demonstrated during all of your visits during the summer of 2000 *operate like* the Ketris 9000 in the courtroom today? A. Yes."); Appx7380 (12-25) ("Q. Would you just remind me what that degree of similarity is [between the Ketris 9000 at trial versus the Ketris 9000 of the year 2000]? A. *It looks and functions the same*."); Appx7409 (15-19) ("Q. Does the system that is sitting in the courtroom today, the Ketris 9000 system, *operate in the same way* as the Ketris 9000 system that you showed to companies in July and August of 2000? A. Yes.") (emphasis added).

version .90 software. However, their characterizations were only external (*i.e.*, look and feel) rather than internal—what the Ketris management software is actually doing, which the manual[7] for version .90 specifies to be using interrupts to collect data without polling. Appx8183; Appx7380 (12-25).

Dell coupled this misleading presentation with its expert, who claimed at trial that "Ketris got their documentation wrong" in testifying about the Ketris Manager Software Manual despite not having inspected a Ketris 9000 system running version .90. Appx7623 (14-24). In explaining what was wrong in the Ketris software manual describing version .90, Dell's expert explained that "it's the generation of an interrupt when a threshold has been exceeded." Appx7624 (5-6).

However, because of the wrongful admission of the Forbes-built Ketris 9000, its demonstration coupled with the unsubstantiated testimony of Bottom, Forbes, and Dell's expert left Acceleron in the impossible position of having to try to prove a negative for a system and its materially different software that no longer exists. Acceleron was substantially prejudiced as a result. Indeed, but for the erroneous admission and demonstration Forbes-built Ketris 9000 system, there is no clear and convincing evidence of record from which a reasonable jury could have concluded

[7] At trial, Forbes proclaimed the manual specifying use of interrupts without polling to be "consistent with the Ketris 9000 that [he] worked on in 2000." Appx7356-7357.

that claim 20 is invalid as anticipated, meaning that this error affected the outcome of the case. *See Outside the Box Innovations v. Travel Caddy,* 695 F.3d 1285, 1297 (Fed. Cir. 2012) ("The Eleventh Circuit guides that errors in admission or exclusion of evidence may be tolerated unless they affect the substantial rights of the parties; that is, unless the errors 'have a substantial influence on the outcome of a case or leave grave doubt as to whether they affected the outcome of a case.'") (quoting *United States v. Frazier*, 387 F.3d 1244, 1266 n.21 (11th Cir. 2004)).

III. THE GRANT OF DELL'S MOTION FOR JMOL OF NO WILLFUL INFRINGEMENT, AND DENIAL OF ACCELERON'S MOTION FOR A NEW TRIAL, SHOULD BE REVERSED

A. Standard of Review

This Court applies regional circuit law when reviewing rulings on motions for JMOL and for a new trial. *i4i Ltd. P'ship v. Microsoft Corp.*, 598 F.3d 831, 841 (Fed. Cir. 2010). In the Eleventh Circuit, decisions on JMOL motions are reviewed *de novo*, considering all the evidence in the light most favorable to the non-moving party. *Abel v. Dubberly*, 210 F.3d 1334, 1337 (11th Cir. 2000). A ruling on a motion for a new trial is reviewed for an abuse of discretion. *McGinnis v. Am. Home Mortg. Servicing, Inc.*, 817 F.3d 1241, 1255 (11th Cir. 2016). The Eleventh Circuit considers a motion for JMOL and a motion for new trial together, although the standards of review are different. *Dudley v. Wal-Mart Stores*, 166 F.3d 1317, 1320 n.3 (11th Cir. 1999).

B. Acceleron Presented Ample Evidence for the Jury to Find Willful Infringement.

While the award of enhanced damages requires a high standard of "wanton, malicious, and bad-faith behavior," a finding of willfulness requires merely "deliberate or intentional infringement." *SRI Int'l. v. Cisco Sys.*, 14 F.4th 1323, 1330 (Fed. Cir. 2021). Willfulness may be established when the infringer (1) had knowledge of the patent, and (2) acted despite a risk of infringement that was "either known or so obvious that it should have been known to the accused infringer." *WBIP, LLC v. Kohler*, 829 F.3d 1317, 1341 (Fed. Cir. 2016); *Arctic Cat v. Bombardier Rec. Prods.*, 876 F.3d 1350, 1371 (Fed. Cir. 2017) (quoting *WesternGeco L.L.C. v. ION Geophysical*, 837 F.3d 1358, 1362 (Fed. Cir. 2016)). Whether there is willful infringement turns on "the totality of the circumstances presented in the case." *WCM Indus., Inc. v. IPS Corp.*, 721 Fed. App'x 959 (Fed. Cir. 2018) (quoting *Shiley, Inc. v. Bentley Labs., Inc.*, 794 F.2d 1561, 1568 (Fed. Cir. 1986)). A patentee need prove willful infringement by only a preponderance of the evidence. *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 579 U.S. 93, 107 (2016).

In its case-in-chief, Acceleron presented ample evidence for the jury to find that Dell's infringement of the '021 Patent was willful. Acceleron first showed that in late 2007, Acceleron wrote to Dell's senior vice-president and general counsel and, later, to Dell's vice-president of intellectual property to inform Dell about the

'021 Patent and to attempt to discuss it.[8] Appx6704-6706 (516:16-518:10); Appx6707 (519:9-18); Appx8237; Appx8246-8248; Appx6708-6709 (520:23-521:19); Appx8238; Appx8261. The jury saw that Dell responded to Acceleron's initial letter with a request for Acceleron to enter into a confidentiality agreement, but that Dell failed to respond to Acceleron's second letter. Appx6706-6708(518:11-519:1, 520:4-22); Appx8239-8240.

Acceleron also presented evidence that Dell became aware of Acceleron filing patent suits against eleven of Dell's blade server competitors. Appx6751-6753 (563:19-565:15). The jury also saw that after Acceleron filed suit against Dell in 2012, Dell continued to sell its existing accused blade server products without modification and even released several new blade server products based on the infringing M1000e design without attempting to avoid infringement or seeking a non-infringement opinion from counsel.[9] Appx6731 (543:13-19); Appx6217-6218 765-2 (73:22-85:22).

[8] The substance of Acceleron's initial letter to Dell is identical to a letter that this Court found, in combination with other factors, as "implicitly asserting its rights under the '021 Patent." *Hewlett-Packard Co. v. Acceleron LLC*, 587 F.3d 1358, 1360-63 (Fed. Cir. 2009).

[9] 35 U.S.C. § 298, which does not permit reliance on the absence of an advice of counsel opinion as a factor for determining willful infringement, did not become effective until January 13, 2013—after the filing of the present suit. Pub. L. No.112-274, § 1(a), 126 Stat. 2456 (2013). Accordingly, the absence of an opinion is a fact for consideration by the jury.

Furthermore, the jury saw a 2014 deposition video from Dell's technical expert in the IPR, Dr. Robert Horst, who contradicted Dell's primary non-infringement argument and exposed that infringement of claim 3 was already known to Dell or was so obvious that it should have been known to Dell. Specifically, Dell's primary non-infringement argument for claim 3 at trial was based on Dell's CPU modules (called "system boards" by Dell) supposedly not being in "caddies," which the Court construed as "carriers for modules." *See* Appx7953 (1765:10-13). Dr. Horst freely opined in the IPR that Dell's CPU modules indeed have "carriers" and that they "[p]ossibly, yes" constituted the caddies of claim 3:

> Q. [W]ould you let me know what you understand to be depicted in Figure 20 [of an M1000e user manual]?
> A. This looks like a way of mounting some type of system board into ***a carrier.***
> …
> Q. I believe you had indicated that the black and white drawing below the system board was a carrier; did I understand you correctly?
> [A.] ***Yes, it looks like some kind of a carrier.***
> Q. According to your understanding of a caddy, ***could the—what we're calling a carrier also be referenced as a caddy?***
> A. ***Possibly, yes.***
> Q. ***Do you understand the caddies of the '021 Patent to be a carrier?***
> A. The caddies in the '021 patent are not very well-described so I had to rely on just the plain definition of … "caddy" to determine exactly what the caddy was in the '021.
> Q. ***Which I believe you said earlier was a carrier?***
> [A.] ***A carrier.***
> ***… Yes. I said a caddy is a carrier of some type.***

Appx6751 (563:6-11); Appx7996-7997 (146:10-151:24) (emphasis added) (discussing Appx8047); Appx627-632 (146:9-151:24). Thus, the jury saw one of Dell's own technical experts readily recognize that Dell's accused products had "carriers" for its CPU modules and that they were "[p]ossibly, yes" the caddies of the '021 Patent.

Acceleron provided substantial evidence for the jury to infer that Dell knew of the '021 Patent and that infringement was known or so obvious that it should have been known to Dell. The jury further saw that despite this known or obvious risk of infringement, Dell continued with business-as-usual in selling infringing products and even releasing new infringing products without making any changes to avoid infringement or seeking a non-infringement opinion. As such, a reasonable jury could have found that Dell's infringement of the '021 Patent was willful.

C. In Granting JMOL of No Willful Infringement, the District Court Relied on Dell's Arguments that Conflated Willfulness with Enhanced Damages.

At the conclusion of Acceleron's case-in-chief, Dell moved for JMOL of no willful infringement. Appx7046 (858:14-17). In doing so, Dell conflated the willfulness and enhanced damages standards and persuaded the district court to grant the motion based on an incorrect, heightened standard for willfulness.

Specifically, Dell argued that JMOL was appropriate because "Acceleron has not presented evidence that Dell both knew of the '021 patent and that its conduct

was the sort of conduct warranting *enhanced damages* under *Halo*[.]" Appx7046 (858:15-21) (emphasis added)). Dell further asserted that "[n]otice of the patent alone without notice of infringement and without the types of *intentional and egregious* conduct identified in *Halo* is insufficient evidence to support willfulness." Appx7046 (858:23-859:1). Moreover, Dell argued that "[t]he standard for willfulness is high" and that "egregious conduct" is "required to establish a willful infringement or enhanced damages claim." Appx7049 (861:7-11); Appx7047 (859:4-6).

But Dell advocated an incorrect legal standard. "[U]nder *Halo*, the concept of willfulness requires a jury to find no more than deliberate or intentional infringement." *SRI*, 14 F.4th at 1330 (cleaned up) (quoting *Eko Brands, LLC v. Adrian Rivera Maynez Enters. Inc.*, 946 F.3d 1367, 1378 (Fed. Cir. 2020)). And, contrary to Dell's claim that "the standard for willfulness is high," there is no heightened required for willfulness. *See SRI*, 14 F.4th at 1330 ("it was not our intent to create a heightened requirement for willful infringement"). Thus, Dell's arguments for JMOL of no willfulness applied an incorrect standard.

By contrast, Acceleron applied the correct legal standard for willfulness and argued that Dell's motion should be denied because "in the totality of circumstances" there was evidence "that Dell has indeed *deliberately* infringed, and is a *deliberate* infringer … ." Appx7047-7048 (859:25-860:3) (emphasis added). Acceleron also

pointed to the evidence discussed above that was sufficient to the jury to at least infer that Dell knew of the '021 Patent and that infringement was known or so obvious that it should have been known to Dell. Appx7047-7049 (859:16-860:12; 860:22-861:1).

Nevertheless, the district court "agree[d] with Dell" and held that "as a matter of law there has been a failure of proof of willfulness." Appx7049 (861:12-15). At the time, the district court did not provide further explanation for its decision to grant JMOL of no willfulness.

Acceleron subsequently moved for reconsideration and reiterated that there was sufficient evidence for the jury to find willfulness based on the proper standard. Appx7488-7491 (1300:12-1303:2). However, the district court denied Acceleron's motion for consideration, again, without explanation. Appx7491 (1303:3-8).

As discussed above, Acceleron presented evidence that (1) Dell had notice of the patent as early as 2007 through Acceleron's two letters to Dell's counsel; (2) Dell was aware of eleven of Acceleron's suits against Dell's blade server competitors in 2008; (3) Dell made no changes to its products after being sued for infringement in 2012; (4) After being sued by Acceleron, Dell continued to sell infringing products and released new infringing products based on the products that were already accused of infringement; (5) Dell failed to obtain a non-infringement opinion; and (5) the testimony of Dell's IPR expert revealed that infringement was

already known or was so obvious that it should have been known by Dell. Because this evidence, in the totality, was sufficient for the jury to find that Dell's infringement was willful, this the grant of Dell's motion for JMOL of no willfulness should be reversed.

D. The District Court's *Post-factum* Reasons for Granting JMOL of No Willfulness Are Erroneous.

Initially, the district court did not articulate reasons for granting Dell's motion for JMOL of no willfulness. After the jury returned its verdict finding infringement and Acceleron filed a post-trial motion for a new trial based on the granting of JMOL of no willfulness, the court articulated for the first time several reasons for granting Dell's JMOL motion. Yet none of those reasons supports granting Dell's motion for JMOL of no willful infringement.

First, the court stated that at the time of Dell's motion, Acceleron did not argue that Dell cited the incorrect standard. Appx54. However, at the time of Dell's motion, Acceleron argued that Dell's motion should be denied when applying the proper standard. Appx7047-7048 (859:25-860:3) ("[I]n the totality of circumstances, we can show that Dell has indeed *deliberately infringed*, and is a *deliberate infringer* ….") (emphasis added). Indeed, the district court noted that "Acceleron *emphasized* that Dell has indeed *deliberately* infringed and is a *deliberate* infringer" to ensure that the proper standard was applied. Appx56 (emphasis added). Plus, when Acceleron moved for reconsideration of the decision

to grant JMOL, Acceleron stressed that the issues of willfulness and enhanced damages are different and that there was sufficient evidence to find willfulness under the proper standard. Appx7488-7491 (1300:24-1301:4; 1301:12-17; 1302:21-1303:02).

The district court also incorrectly stated that Acceleron had agreed to a jury instruction that applied the wrong standard cited by Dell. Appx54. The proposed jury instruction referenced by the court recited the correct standard, namely that the Dell must have "intentionally infringed" the patent:

> To show that Dell's infringement was willful, ***Acceleron must prove by a preponderance of the evidence that Dell knew of Acceleron's patent and intentionally infringed at least one asserted claim of the patent.*** For example, you may consider whether Dell's behavior was malicious, wanton, deliberate, consciously wrongful, flagrant, or in bad faith. …

Appx6387 (emphasis added). The proposed instruction subsequently stated that the jury "*may* consider" whether Dell's behavior was malicious, wanton, deliberate, consciously wrongful, flagrant, or in bad faith—not that such behavior was a prerequisite to finding infringement. Thus, the court is incorrect in finding that Acceleron agreed to apply an incorrect legal standard.

The district court also stated that the standard advocated by Dell was "sufficiently correct" and provided "reasonable clarity as to the correct test" because "Dell used the adverbs 'deliberately,' 'consciously,' and 'intentionality' to describe willful conduct." Appx55. However, the district court has taken those adverbs out of

context and overlooks that Dell incorrectly and repeatedly asserted that the standard for willfulness is "high" and that anything less than "egregious" conduct was insufficient. Appx7046-7049 (858:23-859:1, 859:4-5, 861:7-9).

Further still, the district court found that "Acceleron has not presented evidence of subjective intent to infringe." Appx60. In arriving at this conclusion, the court stated that "Dell's knowledge of the asserted patent and of Acceleron's other lawsuits, its decision to continue to manufacture and sell its products without changes, and Acceleron's allegations of infringement were not enough for a reasonable jury to find that infringement was either known or so obvious that it should have known." Appx61. However, the court overlooked what is perhaps the most compelling circumstantial evidence of Dell's mental state—the testimony of its IPR expert, Dr. Horst.[10] As discussed above, Dr. Horst freely acknowledged in 2014 that Dell's accused products modules indeed do have "carriers" and that they "[p]ossibly, yes" constituted the caddies of claim 3. *See supra* § III.B. Dr. Horst's testimony in combination with the evidence that Dell knew of the '021 Patent and knew of Acceleron's infringement allegations, all while continuing to sell existing infringing products and releasing new infringing products without an opinion from

[10] Dr. Horst's testimony is referenced elsewhere in the decision, but the court incorrectly referred to him as one of Dell's engineers, rather than Dell's technical expert engaged to opine on the '021 Patent. Appx57.

counsel, is sufficient to support a finding that infringement was known or was so obvious that it should have been known.

Moreover, the district court's finding that "***Acceleron has not presented evidence of subjective intent to infringe"*** (Appx60) is at odds with its subsequent finding in the same opinion that "***a reasonable jury could properly conclude that Dell subjectively believed that there was a high probability that its products infringed claim 3***." Appx83 (emphasis added). Since a reasonable jury could have concluded that Dell subjectively believed that there was a high probability that its products infringed claim 3, it could have also found that Dell had the subjective intent for willful infringement.

Additionally, the district court failed to "look at the evidence in the light most favorable to [Acceleron]." *Abel*, 210 F.3d at 1337. The court found that Dell's self-serving statements in an interrogatory response, which were read into evidence at trial, indicated that Dell did not have the necessary mental state for willfulness. *See* Appx62 (citing Appx5949 (15:13-18) as evidence that Dell "concluded that it did not infringe"). The district court also cited Dell's request for Acceleron to enter a disclosure agreement as negating Acceleron's two letters to Dell in 2007. Appx63. However, "it is the jury's task—not the court's—to weigh conflicting evidence and inferences[.]" *McGinnis v. Am. Home Mortg. Servicing.*, 817 F.3d 1241 (11th Cir. 2016). As such, it was error for the district court to rely on this conflicting evidence

in granting JMOL of no willfulness. Therefore, the district court's *post-factum* explanation for granting Dell's motion for JMOL of no willful infringement is erroneous.

E. The Grant of JMOL of No Willful Infringement Necessitates a Full New Trial.

Because the court erred in granting Dell's motion for JMOL of no willfulness, it was an abuse of discretion to deny Acceleron's motion for a new trial on this ground. *See Adams v. Austal, U.S.A., L.L.C.*, 754 F.3d 1240, 1248 (11th Cir. 2014) ("An abuse of discretion occurs where the district court's decision rests upon a clearly erroneous finding of fact, an errant conclusion of law, or an improper application of law to fact."). Moreover, a full new trial is required under the Seventh Amendment because the issue of willfulness in this case is closely intertwined with issues of infringement, validity, and damages.

Under Rule 59(a), a district court is permitted to grant a new trial on "all or some of the issues." FED. R. CIV. P. 59(a). However, under the Seventh Amendment, a partial retrial is permissible only in limited circumstances where "it clearly appears that the issue to be retried is so distinct and separable from the others that a trial of it alone may be had without injustice." *Commil USA LLC v. Cisco Sys. Inc.*, 720 F.3d 1361, 1371 (Fed. Cir. 2013), *vacated on other grounds*, 575 U.S. 632 (2015) (citing *Gasoline Prods. v. Champlin Refining*, 283 U.S. 494, 500 (1931)). If issues to be

retried are not "separate from all other issues," an entire new trial is necessary. *FIGA v. R.V.M.P. Corp.*, 874 F.2d 1528, 1533 (11th Cir. 1989).

Here, the issue of Dell's willful infringement is interwoven with related issues of infringement, validity, and damages. For example, when considering whether Dell's infringement has been willful, considerations for the jury include Acceleron's infringement allegations and whether Dell had "any reasonable basis for non-infringement." *SRI*, 14 F.4th at 1328. Indeed, when opposing Acceleron's motion for a new trial, Dell all-but-admitted that a new trial on all issues was necessary because it argued that the reasonableness of its infringement and validity defenses should be considered when evaluating willfulness. *See* Appx6223-6224; Appx6229.

Acceleron was also prejudiced by the court granting Dell's JMOL of no willfulness. Acceleron promised the jury in its opening statement that Dell was a "willful infringer" and "knowingly and deliberately infringed the '021 Patent." Appx6524 (127:2-5). Following the JMOL ruling, this issue was removed from the jury and unfairly damaged Acceleron's credibility before the jury.

F. It Was Error to Preemptively Deny Enhanced Damages and Affirm JMOL of No Willfulness on the Basis that Enhanced Damages Would Not Have Been Awarded.

In a page-long footnote in the decision denying Acceleron's motion for a new trial, the district court held that the issue of willfulness is "rendered largely moot[] by the fact that the Court would not have enhanced damages under 35 U.S.C. § 284

even if the jury had found willful infringement." Appx65-66. Although the district court correctly noted that it has discretion in awarding enhanced damages, *SRI*, 14 F.4th at 1330, "there is a right to a jury trial on the willfulness question." *WBIP*, 829 F.3d at 1341 n.13. As such, it was error to conclude that the issue of willfulness was moot.

Moreover, it was an abuse of discretion for the district court to issue a preemptive ruling to deny enhanced damages in this case. Acceleron was not provided the opportunity to address the enhanced damages factors articulated in *Read Corp. v. Portec. Inc.*, 970 F.2d 816 (Fed. Cir. 1992), and the district court's footnote denying enhanced damages ignores evidence relevant to the issue of enhancement, such as evidence that (1) Dell failed to investigate the '021 Patent and form a good-faith belief of non-infringement; (2) Dell's size and financial condition; (3) the duration of Dell's infringement; and (4) the lack of any remedial action by Dell. Acceleron should at least have the opportunity to address these issues before the district court committed to denying enhanced damages. *Cf. Arctic Cat*, 876 F.3d at 1371-72 (holding that it was not an abuse of discretion to *award* enhanced damages without briefing because the defendant "[did] not explain how additional briefing would have changed the outcome"). Therefore, this Court should also vacate the district court's preemptive denial of enhanced damages.

IV. THE DECISION DENYING PRE-SUIT PREJUDGMENT INTEREST SHOULD BE REVERSED

A. Standard of Review

A district court's denial of prejudgment interest is reviewed for an abuse of discretion. *Kaufman v. Microsoft Corp.*, 34 F.4th 1360, 1373 (Fed. Cir. 2022). A district court abuses its discretion when based on an erroneous interpretation of the law, or it is clearly unreasonable, arbitrary, or fanciful. *Id.*

B. Acceleron Is Entitled to Prejudgment Interest on the Lump-sum Royalty Award Beginning from the Date of First Infringement.

The Supreme Court has explained that "[i]n the typical case an award of prejudgment interest is necessary to ensure that the patent owner is placed in as good a position as he would have been had the infringer entered into a reasonable royalty agreement." *General Motors v. Devex Corp.*, 461 U.S. 648, 655 (1983). Though a district court has "some discretion" to deny or limit prejudgment interest, *Kaufman*, 34 F.4th at 1368, "[g]enerally, prejudgment interest should be awarded from the date of infringement to the date of judgment." *Nickson Indus. v. Rol Mfg. Co.*, 847 F.2d 795, 800 (Fed. Cir. 1988). As such, "[w]here a jury awards a lump-sum amount as compensation for infringement, the prejudgment interest is properly applied to the entire amount beginning on the first date of infringement." *Schwendimann v. Arkwright Advanced Coating,* 959 F.3d 1065, 1076 (Fed. Cir. 2020); *see also Comcast IP Holdings v. Sprint Communs. Co.,* 850 F.3d 1302, 1315 (Fed. Cir. 2017)

("Prejudgment interest runs from the earliest date of infringement for any patent issued at the time of the hypothetical negotiation[.]").

Here, the jury awarded Acceleron a lump-sum royalty payment for Dell's infringement of the '021 Patent, Appx5913, and the parties stipulated that the hypothetical negotiation (*i.e.*, the first date of infringement) was September 20, 2005. Appx6490 (93:21-22); Appx7885 (1697:19-20). As discussed in the following sections, there is no justification for denying pre-suit prejudgment interest, which should be applied beginning on the stipulated first date of infringement—September 20, 2005.

C. Acceleron's Exclusion of Pre-suit Damages from Its Running Royalty Calculation Is Irrelevant to the Issue of Providing Prejudgment Interest on the Jury's Lump-sum Damages Award.

At the conclusion of Acceleron's case-in-chief, the district court granted Dell's motion for JMOL that Acceleron was not entitled to pre-suit damages for Dell's indirect infringement that occurred prior to 2007. Appx7036 (848:16-22). As a result of that ruling, Acceleron presented to the jury a revised running royalty calculation that excluded damages for Dell's pre-suit infringing activity.[11] Appx7481-7482 (1293:22-1294:3).

[11] Acceleron had sought to present an additional revised calculation that included certain pre-suit damages for Dell's infringement between 2007 and the filing of the complaint, but the district court permitted only one revised calculation. Appx7481-7482(1293:22-1294:3).

In its decision denying pre-suit prejudgment interest, the court characterized Acceleron's revised running royalty calculation as a "strategic decision to waive pre-suit damages." Appx109. While Acceleron disagrees with that characterization, it nevertheless does not provide a basis to arbitrarily reset the start date for prejudgment interest to 2012. The parties stipulated that the hypothetical negotiation (*i.e.*, the start date of infringement) would have been on September 20, 2005. The jury was also instructed that "[t]he date of the hypothetical negotiation is September 20, 2005" and that "[a] lump-sum payment is ... an amount that the alleged infringer would have paid *at the time of a hypothetical negotiation* for a license covering *all sales* of the licensed product, both past and future." Appx5903 (emphasis added). Thus, the exclusion of pre-suit damages from Acceleron's revised *running royalty* calculation does not justify denying a portion of prejudgment interest of the *lump-sum royalty* awarded by the jury.

Moreover, Dell's own damages expert testified that the lump-sum payment would have been made in 2005 and that the district court would provide for interest to account for the payment being "[i]n 2005 dollars:"

> Q. So Dell would need to pay Racemi, in the hypothetical negotiation, $1.71 million?
>
> A. ***In 2005 dollars,*** yes.
>
> ...
>
> A. ... I have concluded it is a lump sum. So once I have concluded that, ***what would that royalty payment be in 2005***, if there was

> any interest to add to that. Because we are sitting here today in 2021, ***my understanding is that the Court would be [responsible] for calculating that interest.***
>
> A. ... [I]f you agree with me that this should be a lump sum, and you agree that ***the amount that would have been paid in 2005*** is $1,710,000, that is the consideration. ***And the Court would adjust that amount for any interest that would be due.***

Appx7672-7672 (1484:11-1485:5 (emphasis added)). Thus, Dell's own expert acknowledged that pre-suit interest beginning at 2005 would be appropriate if the jury elected to award a lump-sum award instead of a running royalty.

D. There Is No Basis for the Conclusion that the Jury Awarded a Lump-sum Payment in 2011 Dollars.

In denying pre-suit prejudgment interest, the court also held that "it is credible to deduce that the jury declined to apply [Dell's damages expert's] discount back to 2005" because Dell's expert "testified that a lump sum award of $2.1 million would be a reasonable royalty based on the HP Agreement, which occurred in 2011." Appx110. In other words, the court found that the lump-sum award was in 2011 dollars and had not been discounted back to 2005.

However, that conclusion is not supported by the record. The jury was instructed that "[a] lump sum payment is equal to an amount that the alleged infringer would have paid *at the time of a hypothetical negotiation*" and that "[t]he date of the hypothetical negotiation is September 20, 2005." Appx5864; Appx5903. The jury was also instructed that it "may not add anything to the amount of damages for interest." Appx5895. There is nothing to suggest that the jury ignored these

explicit instructions. *See Weeks v. Angelone*, 528 U.S. 225, 234 (2000) ("A jury is presumed to follow its instructions." (citation omitted)). Thus, it was clear error for the district court to deny pre-suit prejudgment interest on the ground that the damages award reflected 2011 dollars.

E. There Was No Undue Delay in Acceleron Bringing Suit.

The district court also held that it would be "unjust" for Dell to pay pre-trial prejudgment interest because there was a five-year period of "undue delay" in Acceleron filing suit. Appx111. However, "to show that delay was undue, a defendant must, at least generally, show that it was prejudiced." *Kaufman*, 34 F.4th at 1375. Neither Dell nor the district court identified any alleged prejudice resulting from Acceleron filing suit in 2012. Appx111; Appx6212. Moreover, this Court has held that "the fact that [a party] did not sue for five years after he became aware of [the defendant's] potential infringement does not alone justify a finding of undue delay." *Kaufman*, 34 F.4th at 1375. Likewise, the finding of "undue delay" is unsupported in this case and does not justify the denial of pre-suit prejudgment interest. The district court's decision should be reversed.

CONCLUSION

For the foregoing reasons, this Court should:

1. Construe the term "poll(s)" as meaning "actively gather(s) information" and reverse the decision granting Dell's motion for summary judgment of no

infringement and denying Acceleron's motion for summary judgment of infringement of claim 20;

2. Reverse the denial of Acceleron's MIL to exclude the Forbes-built Ketris 9000 unit;

3. Reverse the decisions granting Dell's motion for JMOL of no willfulness and denying Acceleron's motion for a new trial on this basis; and

4. Reverse the denial of pre-suit prejudgment interest on the jury's lump-sum royalty award.

Dated: July 29, 2022

/s/ N. Andrew Crain

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ADDENDUM

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF GEORGIA
ATLANTA DIVISION

ACCELERON, LLC,

Plaintiff,

v.

DELL, INC.,

Defendant.

CIVIL ACTION FILE

NO. 1:12-cv-4123-TCB

O R D E R

This case comes before the Court on Special Master William H. Needle's Report and Recommendation [413] (the "R&R"), which recommends granting in part and denying in part Defendant Dell, Inc.'s motion [261] for partial summary judgment of no pre-suit damages and non-infringement and denying in part Plaintiff Acceleron, LLC's motion [262] for partial summary judgment of infringement. Acceleron and Dell have filed objections thereto [425, 428].

I. Legal Standard

The standard of review for a special master's report is set forth in Federal Rule of Civil Procedure 53, unless the Court has ordered or the parties have agreed otherwise. Here, they have not.

When reviewing a special master's factual conclusions, a "court must decide de novo all objections to findings of fact made or recommended by a master . . . ." FED. R. CIV. P. 53(f)(3). Factual findings not objected to will be reviewed for clear error. *See Martin v. Univ. of S. Ala.*, 911 F.2d 604, 608 (11th Cir. 1990) ("[F]indings of fact made by a Special Master must be accepted by the district court unless clearly erroneous."). Similarly, "[t]he court must decide de novo all objections to conclusions of law made or recommended by a master." FED. R. CIV. P. 53(f)(4).

After reviewing the special master's factual and legal conclusions under the appropriate standard, the Court "may adopt or affirm, modify, wholly or partly reject or reverse, or resubmit [them] to the master with instructions." *Id.* at 53(f)(1).

II. Discussion

A. Pre-Suit Damages

Dell asserts that Acceleron is barred from recovering pre-suit damages under 35 U.S.C. § 287(a) because it failed to provide actual or constructive notice of infringement of the '021 patent and has moved for summary judgment on that issue.

The R&R recommends granting in part and denying in part Dell's motion. Specifically, the R&R recommends allowing pre-suit damages from November 28, 2006 through November 11, 2009, and barring pre-suit damages from November 11, 2009 through November 28, 2012. The R&R finds that there was no constructive notice because Dell has identified unmarked Fujitsu products, and Acceleron has not met its burden of showing it complied with statutory marking requirements. The R&R also finds that there was no actual notice because the letters Acceleron has produced to show actual infringement do not affirmatively communicate a specific charge of infringement.

Both parties object. Acceleron asserts that the R&R incorrectly determines that Dell satisfied its burden of production of articulating

products it believes to be unmarked patented articles. It also objects to the R&R's conclusion that Acceleron's letters did not provide actual notice to Dell.

Dell objects to the R&R's conclusion that Acceleron is entitled to damages from November 28, 2006 to November 11, 2009.

1. Constructive Notice

Acceleron asserts that Dell is required to provide evidence that Fujitsu sold unmarked products, not just identify an alleged licensed product, "without providing any evidence that the product was actually ever sold or that it practices the '021 Patent." [425] at 5.[1] To be clear, *Arctic Cat Inc. v. Bombardier Recreational Products Inc.*, 876 F.3d 1350 (Fed. Cir. 2017), seemingly supports both positions. The case supports Acceleron's position that Dell must provide evidence of actual sales, and Dell's position that it must merely identify what it believes to be unmarked patented articles.

The Federal Circuit first stated that "an alleged infringer who challenges the patentee's compliance with § 287 bears an initial burden

[1] The Court refers to CM/ECF pagination.

of production to *articulate* the products it believes are unmarked" articles. *Id.* at 1368 (emphasis added). Though the Federal Circuit highlights that this is a low bar, it goes on to state that "[t]he alleged infringer need only put the patentee on notice that he or his authorized licensees *sold* specific unmarked products . . . ." *Id.* (emphasis added).

Regardless of whether the *Arctic Cat* standard requires mere articulation of proof of sales, the Court finds that Acceleron raised the argument about a lack of sales for the first time in it its objections to the R&R, and the Court declines to consider such an argument. *See Counterman v. InterCept, Inc.*, No. 1:05-cv-438-TCB, 2006 WL 8432045, at *4 (N.D. Ga. Nov. 3, 2006); *see also Williams v. McNeil*, 557 F.3d 1287, 1292 (11th Cir. 2009) ("a district court has discretion to decline to consider a party's argument that was not first presented to the magistrate judge"). Even if the Court were to consider Acceleron's argument, there is some case law that indicates that Acceleron must produce evidence that it lacked sales. *See Junker v. Med. Components, Inc.*, No. 13-4606, 2019 WL 109385, at *17 (E.D. Pa. Jan. 4, 2019).

Moreover, Acceleron asserts that Dell bears the burden of showing that the Fujitsu products practice the patent. Acceleron conflates the burden. It is clear that "the patentee bears the burden to prove that the products identified do not practice the patented invention." *Arctic Cat*, 876 F.3d at 1238.

Acceleron's objection is overruled.

2. Actual Notice

Acceleron next objects to the R&R's finding that Dell did not receive actual notice of the '021 patent and its infringement. Acceleron asserts that because its second letter identified a specific patent and Dell product line and offered to engage in discussion about the patent, it put Dell on notice of infringement. However, the October 7 letter was not sufficient to put Dell on notice of alleged infringement. The R&R correctly identified the differences between the letter related to the HP litigation and letter related to the current litigation. The HP letter contains statements about entering into a standstill agreement and insistence that HP not file a lawsuit; such statements were notably missing from the Dell letter.

Acceleron's objection is overruled.

3. Pre-Suit Damages Despite Lack of Compliance with § 287(a)

The R&R recommends granting Acceleron pre-suit damages from November 28, 2006 through November 11, 2009. That is the period before the Fujitsu licensing agreement triggered the duty to mark but still within the six-year time limitation for damages imposed by the Patent Act.

Dell asserts that the recommendation is contrary to the plain language of the statute and misapplies cited case law.

In making his recommendation, the special master relies on 35 U.S.C. § 287(a), *Texas Digital Systems, Inc. v. Telegenix, Inc.*, 308 F.3d 1193, 1291–20 (Fed. Cir. 2002), and *WiAV Solutions LLC v. Motorola, Inc.*, 732 F. Supp. 2d 634, 639–40 (E.D. Va. 2010).

Dell cites to *Adrea, LLC v. Barnes & Noble, Inc.*, No. 13-CV-4137 (JSR), 2015 WL 4610465, at *3 (S.D.N.Y. July 24, 2015), to support its assertion that a patentee who fails to mark its products may not recover damages until after it gives actual notice to the accused infringer. Dell has also submitted supplemental authority to support its position,

Arctic Cat Inc. v. Bombardier Recreational Products Inc., 950 F.3d 860 (Fed. Cir. Feb. 19, 2020) ("*Arctic Cat II*").

The R&R's recommendation is correct. The issue is simple. Does 35 U.S.C. § 287(a) preclude all pre-suit damages when a patentee fails to mark or only those pre-suit damages that were triggered by the production of patented articles?

In *Arctic Cat II*, the Federal Circuit held that "once a patentee begins making or selling a patented article, the notice requirement attaches, and the obligation imposed by § 287 is discharged only by providing actual or constructive notice." *Id*. at 865.

The Federal Circuit has also held that a patentee who has sold unmarked products may begin recovering damages *after* the patentee begins marking. "Otherwise, a patentee who has sold unmarked products would have no incentive to begin marking, contrary to the objective of the statute." *Id.*

Accordingly, it follows that any failure to mark does not preclude all pre-suit damages. Dell's argument fails, and its objection is overruled.

B. Infringement

1. Claims 14–17

Dell moves for partial summary judgment of non-infringement of claims 14–17. The special master recommends denying this portion of Dell's motion.

As a threshold matter, this Court has held that claim 17 is invalid as a matter of law. However, the Court addresses infringement below.

Dell objects to the special master's recommendation because it asserts that Acceleron has failed to present evidence that the accused products infringe claims 14–17. The Court will address Dell's objections turn-by-turn.

First, Dell argues that Acceleron has not shown that the source book for the 1855 system demonstrates that the system is capable of performing all claim elements that Acceleron must prove for infringement at trial. For instance, it argues that the document does not demonstrate that the server blade of the 1855 system "comprises hardware BIOS for configuring the CPU module and instructing a

[NAS] to locate an [OS] from which to boot" as required by claims 14–17.

This objection is overruled. The document, coupled with Acceleron's expert testimony, creates a genuine dispute of material fact as to the presence of the claim limitations required by claims 14–17.

Next, Dell asserts that Acceleron relies on the source document for the 1855 system for the functionality of all other accused products, and thus, the special master erred by recommending denying summary judgment on these products. Though Acceleron does rely on the source document for the 1855 system for the functionality of all other accused products, its expert, William Putnam, has provided testimony explaining how all the other accused products have the same functionality as the 1855 system and therefore satisfy the elements of claims 14–17. The testimony is sufficient to survive Dell's summary judgment motion. Moreover, Michalson's report refutes that the source book provides evidence for the accused products. Accordingly, summary judgment is inappropriate because there are genuine issues of material fact, and there is a "battle of the experts." *See Edward Sys. Tech., Inc. v.*

Dig. Control Sys., Inc., 99 F. App'x 911, 921 (Fed. Cir. 2004). Dell's objection is overruled.

Third, Dell asserts that the special master errs by concluding that there is a factual dispute regarding whether the accused products require modification to communicate with a NAS during the boot. There is again a "battle of the experts" as to whether modification of the accused products' software is necessary before they can communicate with the NAS.

Dell's objections are overruled, and the Court will deny Dell's motion for summary judgment as to claims 14–17.

2. Claims 20 and 22

The special master recommends granting Dell's motion for partial summary judgment of non-infringement of claim 20 of the 1855, 1955, M1000e,[2] VRTX, and FX2 products and denying Acceleron's motion for partial summary judgment on infringement of claim 20 of the M1000e,

[2] The R&R references MX1000e, which the Court assumes refers to the M1000e system.

VRTX, and FX2 products. He also recommends denying Dell's motion for partial summary judgment of non-infringement of claim 22.

a. Claim 20

The dispute as to claim 20 centers around whether the accused products include a "micro-controller module" that is configured "to remotely poll the CPU module." The R&R properly interpreted the Court's claim construction to determine that "polls" do not constitute queries and interrupts.

Acceleron's objections center around whether each of the communications is in fact a poll.

The parties dispute whether query-driven communications constitute the claimed "poll[ing]." Dell argues that a command sent by the microcontroller module in response to a query is not a "poll" because the response to a query is still part of the query process. Acceleron contends that query-inspired communications are still the claimed "poll[ing]," because the microcontroller module actively gathers information after the query is received. The special master concludes

that the appropriate interpretation of the Court's claim construction of the term "poll(s)" is the one advanced by Dell.

However, Acceleron asserts that the R&R does not apply the Court's claim construction of "poll(s)" as "actively gathers information" because active gathering of information occurs after an interrupt or query. While the Court agrees that the R&R did not apply that claim construction, the special master's outcome was correct. It simply does not follow that a poll can follow a query or interrupt; the three events are distinct processes.

It is well settled that "[d]istrict courts may engage in rolling claim construction, in which the court revisits and alters its interpretation of the claim terms as its understanding of the technology evolves." *Pfizer, Inc v. Teva Pharm., USA, Inc.*, 429 F.3d 1364, 1377 (Fed. Cir. 2005) (quoting *Jack Guttman, Inc. v. Kopykake Enters., Inc.*, 302 F.3d 1352, 1361 (Fed. Cir. 2002)). Polls, queries, and interrupts are three unique methods of gathering information. Thus, the Court now modifies its claim construction order to hold that the construction of "poll(s)" is

"actively gathers information using methods other than queries or interrupts."

This is the construction the special master utilized in making his recommendation and the construction the Court believes to be correct as its understanding of the '021 patent has evolved. Accordingly, the Court will adopt the special master's recommendation and grant Dell's motion for partial summary judgment of no infringement of claim 20 of the 1855, 1955, M1000e, VRTX, and FX2 products and deny Acceleron's motion for partial summary judgment on infringement of claim 20 of the M1000e, VRTX, and FX2 products.

b. Claim 22

The R&R recommends denying Dell's motion for partial summary judgment on non-infringement of claim 22.

Dell objects to the special master's denial of its motion for partial summary judgment of non-infringement as to claim 22 because it asserts that Dell cannot infringe dependent claim 22 because the R&R similarly determines that independent claim 20 is not infringed. The objection is sustained. Because the asserted independent claim 20 is not

infringed, the asserted dependent claim 30 is likewise not infringed. *Ferring B.V. v. Watsons Labs., Inc.-Fla.*, 764 F.3d 1404, 1411 (Fed. Cir. 2014). Dell's motion for partial summary judgment on non-infringement of claim 22 is granted.

3. Claim 24

In its motion for partial summary judgment on infringement, Acceleron argues that the M1000e, FX2, VRTX, and MX7000 products infringe claim 24. Dell moves for partial summary judgment of non-infringement on the same claim.

The R&R recommends denying both motions.

Acceleron objects on the basis that Dell's non-infringement contentions do not dispute that the switch version of the accused IOMs satisfy the "filters" claim element. Therefore, Acceleron argues that "Dell is precluded from asserting the non-infringement defense it did not disclose during its non-infringement contentions . . . ." [425] at 18.

Notably, this is the first time Acceleron raises this argument as it pertains to this motion, probably because it is frivolous. Dell's non-infringement contentions clearly state that the accused system "does

not include an ethernet switch module" to satisfy the claim element. This complies with Local Patent Rule 4.2(1), which requires the response to "either acknowledge or deny whether each element of each asserted claim is found within each Accused Instrumentality . . . ." Acceleron's objection is overruled.

Dell objects because "unsupported and conclusory expert testimony cannot create a factual dispute that precludes summary judgment." [428] at 12 (citation omitted). That objection is overruled. Not only has Acceleron provided the aforementioned expert testimony, but also Dell engineer Joel "Shawn" Dube has explained that the switch IOMs direct communications to the desired destination. Moreover, during IPR, Dell admitted that the filtering in the '021 patent is inherent to ethernet switches. Accordingly, there is enough to survive summary judgment, and Dell's objection is overruled.

The Court will adopt the R&R as it relates to claim 24 and deny both motions for summary judgment.

C. Doctrine of Equivalents

The R&R recommends denying Dell's motion for partial summary judgment of non-infringement as to whether Acceleron presented evidence to support infringement of four of its doctrine-of-equivalents theories. No objections have been filed to this recommendation, and the Court will adopt it.

D. Ensnarement

The R&R recommends denying Dell's motion for partial summary judgment that the accused products cannot infringe any asserted claim of the '021 patent under Acceleron's doctrine of equivalents theory because they ensnare the prior art. The special master concludes that conducting a post-trial ensnarement hearing is the most judicious and efficient approach to Dell's ensnarement defense. No objections have been filed to this recommendation, and the Court will adopt it.

III. Conclusion

Having conducted a complete and careful review of the R&R [413], including a de novo review of those portions of the R&R to which the parties object, the Court overrules in part and sustains in part both

Acceleron's and Dell's objections. Specifically, the Court holds as follows:

- Dell's motion [261] for no pre-suit damages is granted in part and denied in part. Pre-suit damages are allowed from November 28, 2006 to November 10, 2009 but barred from November 11, 2009 to November 28, 2012.[3]
- Dell's motion [261] for partial summary judgment of non-infringement of Claims 14–17 is denied, and Acceleron's motion [262] of partial summary judgment of infringement is denied.
- Dell's motion for partial summary judgment of non-infringement of claim 20 is granted.
- Dell's motion for partial summary judgment of non-infringement of claim 22 is granted, and Acceleron's motion [262] is also denied.
- Dell's motion for partial summary judgment of non-infringement of claim 24 is denied.

[3] The R&R recommends allowing damages from November 28, 2006 to November 11, 2009 and barring damages barring damages from November 11, 2009 to November 28, 2012. The Court modifies the R&R to allow for damages only until November 10, 2009 to avoid overlap of the November 11, 2009 date.

- Dell's motion for partial summary judgment of non-infringement with regard to Acceleron's doctrine of equivalents theories is denied.
- Dell's motion for partial summary judgment of non-infringement under the doctrine of equivalents due to ensnarement is denied.

IT IS SO ORDERED this 31st day of March, 2020.

Timothy C. Batten, Sr.
United States District Judge

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF GEORGIA
ATLANTA DIVISION

ACCELERON, LLC,

Plaintiff,

v.

DELL, INC.,

Defendant.

CIVIL ACTION FILE

NO. 1:12-cv-4123-TCB

O R D E R

This case comes before the Court on Special Master William H. Needle's Report and Recommendation [605] (the "R&R"), which recommends granting in part and denying in part Dell's motions [506] in limine. Both Dell and Acceleron have filed objections [612, 615]. Also before the Court is Needle's Report and Recommendation [607] (the "2nd R&R"), which recommends granting in part and denying in part Acceleron's motions [511] in limine. Both Acceleron and Dell have filed objections [617, 621].

I. Legal Standard

The standard of review for a special master's report is set forth in Federal Rule of Civil Procedure 53, unless the Court has ordered or the parties have agreed otherwise. Here, they have not.

When reviewing a special master's factual conclusions, a "court must decide de novo all objections to findings of fact made or recommended by a master . . . ." FED. R. CIV. P. 53(f)(3). Factual findings not objected to will be reviewed for clear error. *See Martin v. Univ. of S. Ala.*, 911 F.2d 604, 608 (11th Cir. 1990) ("[F]indings of fact made by a Special Master must be accepted by the district court unless clearly erroneous."). Similarly, "[t]he court must decide de novo all objections to conclusions of law made or recommended by a master." FED. R. CIV. P. 53(f)(4).

After reviewing the special master's factual and legal conclusions under the appropriate standard, the Court "may adopt or affirm, modify, wholly or partly reject or reverse, or resubmit [them] to the master with instructions." *Id.* at 53(f)(1).

II. Discussion

A. Dell's Motions in Limine

1. Argument or Expert Testimony Not Properly Disclosed in the Experts' Reports Under Rule 26

The R&R recommends granting Dell's motion in limine to preclude Acceleron's experts from testifying beyond the scope of what was disclosed in their reports (that has not been stricken or otherwise excluded) and to preclude Acceleron's attorneys from making arguments that otherwise find support through excluded or stricken expert opinions. No objections have been filed, and the Court will adopt this recommendation.

2. Argument or Expert Testimony on Indirect Infringement

The R&R recommends granting Dell's motion to preclude Acceleron's expert William Putnam from suggesting or presenting any argument or evidence that Dell has indirectly infringed the '021 Patent but recommends denying the motion as to Michael Milani. Both Acceleron and Dell object.

Dell objects to the R&R's failure to address its argument that the Court should preclude all argument, evidence, and testimony on pre-suit indirect infringement because Acceleron has no evidence that Dell knew it was infringing. Specifically, Dell argues that the Court previously found that the 2007 letters were insufficient to put Dell on notice that it was infringing, and Acceleron now relies on brand new evidence and legal theories regarding Dell's alleged knowledge of infringement. Therefore, Dell argues that because Acceleron did not identify the bases for indirect infringement during discovery, Acceleron cannot rely on them at trial.

Acceleron responds that Dell's "no evidence" argument is improper to raise in a motion in limine. Moreover, it argues that Dell's argument that Acceleron relies on brand new evidence and legal theories is incorrect. It points out that Dell identified through its own interrogatory responses that it was tracking other suits related to the '021 Patent, and Acceleron identified Dell's failure to obtain an opinion of counsel and change its business model.

Because Acceleron has identified certain evidence that Dell at least knew of the '021 Patent prior to the initiation of this lawsuit, which could support its indirect infringement theory, the Court will overrule Dell's objection.

3. Conception Prior to November 16, 2000

The R&R recommends denying Dell's motion to preclude Acceleron from relying on any conception date of the asserted claims of the '021 Patent other than November 16, 2000 or testifying that any reference preceding that date is not prior art on the basis of earlier conception. No objections have been filed, and the Court will adopt the R&Rs recommendation.

4. Racemi Products or Components Thereof as Embodying the Claims of the '021 Patent

The R&R recommends denying Dell's motion that Acceleron be precluded from offering any argument, evidence or suggestion that any Racemi blade server or component practices any claim limitation of the '021 Patent. The R&R comes to that conclusion because Putnam's report described certain features of the Racemi blade server and states that

each of the innovations was disclosed in the specification and claims of the '021 Patent.

Dell objects in part to the recommendation because "Putnam's expert report only describes certain features of the Racemi blade servers, so he should not be permitted to testify that the Racemi blade server embodies claim limitations not identified in his report." [613] at 7. Acceleron responds that Dell's argument ignores that Putnam opines on additional features of the Racemi product.

Upon review of Putnam's expert report, the Court finds that Putnam opines that the Racemi blade server embodies other claim limitations. As mentioned above, Putnam should not opine beyond what is disclosed in his expert report. Dell's objection will be overruled.

5. Dell's Total Revenue and Revenue from Unaccused Products or Components

The R&R recommends denying Dell's motion to preclude Acceleron from presenting any argument, evidence, or suggestion regarding Dell's total revenue; its overall revenue from servers, blade servers, or any other product other that the specific products accused in

this case; and any revenue from the accused products above the amount Acceleron's damages expert opined.

Dell objects and argues that any Dell revenue figures that exceed the royalty base should be excluded because they are irrelevant and highly prejudicial, and would confuse the jury. Specifically, Dell asserts that the special master errors in recommending denial because Andrien mentions revenue numbers in his report.

To properly analyze the arguments, the Court examines each figure independently. First, Dell moves to preclude Acceleron to presenting argument or evidence as to Dell's total revenue. Andrien's report mentions Dell's total revenue only for background purposes, and it is not relevant to any of his testimony on damages. In this case, "[a]dmission of such overall revenues, which have no demonstrated correlation to the value of the patented feature alone, only serve to make a patentee's proffered damages amount appear modest by comparison, and to artificially inflate the jury's damages calculation beyond that which is 'adequate to compensate for the infringement.'" *LaserDynamics, Inc. v. Quanta Comput., Inc.*, 694 F.3d 51, 68 (Fed. Cir.

2012) (quoting 35 U.S.C. § 284). The same analysis applies to the research and development figures. Acceleron may, however, address these figures if Dell first brings them up at trial.

The next figure is the overall revenue from servers, blade servers, and any product other than the specific products accused in this case. Andrien has put these figures into controversy because they are essential to the first step of his damages calculation and therefore admissible. Accordingly, Dell's objection is sustained in part and overruled in part.

6. The Hitachi Agreement

The R&R recommends denying Dell's motion to preclude Acceleron from presenting the Hitachi Agreement or any related testimony or argument at trial.

Dell objects on the basis that the agreement is more prejudicial than probative and that the special master erred in denying Acceleron's motion without addressing the merits of Rule 403.

The Court finds that the probative value of the Hitachi agreement outweighs the prejudicial effect. Dell's objection will be overruled.

7. Contesting That the PTAB Invalidated Claims 1 and 2 of the '021 Patent Based on the Hipp Reference in an Inter Partes Review

The R&R recommends granting Dell's motion to preclude Acceleron from presenting any argument or evidence that contests the invalidity of claims 1 and 2 of the '021 Patent as anticipated by Hipp.

Acceleron objects to the form of the R&R's conclusion and requests that the Court clarify the scope of the motion in limine to mean that Dell should also not be permitted to introduce evidence regarding the PTAB's determination of claims 1 and 2.

Such clarification is not necessary; the Court has addressed Acceleron's motion to preclude Dell from introducing evidence and argument regarding the non-asserted claims of the '021 Patent below. Acceleron's objection will be overruled.

8. Non-Institution of Inter Partes Review of Certain Claims of the '021 Patent

The R&R recommends granting Dell's motion to preclude Acceleron from suggesting or presenting any argument or evidence regarding the PTAB's decision not to institute IPR on claims 22–24 of

the '021 Patent in a first IPR or its decision not to institute IPR on any ground in a second IPR.

Acceleron does not object to the recommendation as to claims 22 and 23, but objects to the recommendation as to claim 24. It asserts that the PTAB's decision not to institute IPR on claim 24 is highly relevant to Dell's willful infringement of the '021 Patent. Though admission of this evidence would be relevant, for the reasons stated in the R&R, admission would be unduly prejudicial and confusing to the jury. Acceleron's objection will be overruled.

9. Argument Characterizing the Burden of Proof for the Clear and Convincing Standard

The R&R recommends granting Dell's motion in limine to preclude Acceleron from making any characterizations of the clear and convincing standard addressed in the Court's jury instructions.

Acceleron objects that the recommendation to preclude Acceleron from making any characterizations of the clear and convincing standard is overly broad.

Based on Acceleron's representation that it will not make any references inconsistent with the clear and convincing standard, Dell's motion is denied as a moot.

10. Argument or Expert Testimony That Claim 3 Requires Air Flow from the Front to the Rear of the Caddies

The R&R recommends denying Dell's motion to preclude Acceleron and its technical expert, William Putnam, from providing argument or testimony that claim 3 of the '021 Patent requires air flow from the front to the rear of the caddies.

Dell objects on the basis that Putnam applies a limitation that is not present in any claim language and would force a jury to decide an issue of claim interpretation.

The Court agrees with the special master's analysis and does not believe that allowing the testimony would force a jury to decide an issue of claim interpretation. The Court declines to exclude the testimony, and Dell's objection will be overruled.

11. Testimony by Erika Norwood and Laura Putz

The R&R recommends denying Dell's motion to preclude any testimony at trial by Erika Norwood or Laura Patz.

Dell objects to the R&R on the basis that that special master misunderstood the timing and context of Acceleron's disclosure of Norwood and Putz.

The Court agrees with the special master's analysis and is unimpressed with Dell's representation that it diligently pursued discovery to identify the management of Acceleron but failed to depose Norwood or Putz. However, the issue remains whether Acceleron was justified in its failure to disclose Norwood or Putz. Acceleron does not even attempt to justify its failure to disclose Norwood and Putz pursuant to Rule 26. Therefore, Dell's objection will be sustained, and Norwood and Putz will be precluded from testifying at trial.

12. Argument, Evidence, or Suggestion That Dell Willfully Infringed

The R&R recommends denying Dell's motion to preclude Acceleron from suggestion or presenting an argument or evidence that Dell willfully infringed the '021 Patent.

Dell objects to the R&R conclusion that Dell is inviting the Court to decide factual issues disputed by Acceleron because Acceleron has no evidence that Dell willfully infringed.

The R&R properly concluded that Dell's motion in limine is a rephrased summary judgment motion. However, Dell argues that the Court should preclude Acceleron from presenting new evidence it raised for the first time in its opposition brief. The evidence that Dell contends is new is its tracking of other infringement suits and failure to obtain an opinion of counsel as to infringement. The Court has addressed that evidence above. Therefore, Dell's objection will be overruled.

13. The 2007 Letters and Dell's Response Letter

The R&R recommends denying Dell's motion to preclude Acceleron from introducing as evidence at trial, or otherwise making any argument or suggestion, regarding the 2007 letters and Dell's letter in response to the first 2007 letter.

Dell objects on the basis that admission of the letters should be precluded because they are irrelevant and would prejudice Dell by

implying that it had proper notice of Acceleron's infringement allegations.

However, Acceleron has properly pointed out that the letters are relevant to knowledge of the patent. The Court finds that the probative value of the letters is not outweighed by any potential prejudice to Dell. Dell's objection will be overruled.

14. Suggestion of Copying or Theft of the Purported Invention by Dell

The R&R recommends denying Dell's motion to preclude Acceleron from providing any argument, evidence, or suggestion at trial that Dell copied or stole the invention with regard to the M1000e, VRTX, FX2, and MX7000 products, but granting the motion as to the PowerEdge 1855/1955 products.

Dell objects to the special master's conclusion that copying may be relevant to willfulness and non-obviousness because Acceleron never alleged copying or theft as a basis for willful infringement or non-obviousness, and it cannot now add those theories.

Acceleron responds that two of its interrogatory responses allege copying. Because Dell's objection has been properly rebutted by evidence that Acceleron did suggest copying, it will be overruled.

15. Any Suggestion That Dell Did Not Offer to Settle This Case

The R&R recommends granting Dell's motion to preclude Acceleron from introducing as evidence at trial, or otherwise making any argument or suggestion, that Dell has not entered into settlement negotiations with Acceleron or offered to settle this case. Neither party has filed objections, and the Court will adopt this recommendation.

16. Any Suggestion Regarding Social Impact Investing or Any Charitable, Humanitarian, or Socially Beneficial Endeavors

The R&R recommends granting Dell's motion to preclude Acceleron from introducing any evidence at trial, or otherwise making any argument or suggestion, regarding social impact investing or any charitable, humanitarian, or socially beneficial endeavors by Acceleron, its corporate parents, or anyone associated with Acceleron.

Acceleron objects because the special master based his recommendation upon Acceleron's previous representations that Dell

was not entitled to discovery concerning certain non-party individuals because the information was not relevant to any of Dell's claims or defenses. Acceleron contends that because the Court held that Dell was entitled to discovery of certain individuals, those non-party individuals are relevant now. Moreover, it argues that it never claimed that the purpose of its holding company was irrelevant.

Acceleron may present background material as to the purpose of WWV Holdings, but it should not belabor the point. Any testimony as to the social impact investing or charitable or humanitarian endeavors of any individuals is irrelevant and will not be allowed. Acceleron's objection will be sustained in part.

B. Acceleron's Motions in Limine

1. Evidence of Non-Comparable Settlement and License Agreements

The 2nd R&R recommends denying Acceleron's motion to exclude any evidence regarding the settlement agreements that Dell's expert, Jeff Andrien, admits are not comparable to the hypothetical negotiation between Dell and Racemi.

Acceleron objects to the 2nd R&R's conclusion that the settlement agreements may be used to support the form of a reasonable royalty.

Acceleron's objection will be overruled because the special master properly determined that Andrien uses the agreements for the form of royalty, and opines that the agreements are not comparable for determining the amount of compensation. However, Acceleron asserts that even if the Court overrules its objection, the Court should clarify that the motion in limine is granted for other purposes, such as the amounts of compensation. The Court agrees and modifies the 2nd R&R to hold that the motion in limine is denied to the extent the agreements are referenced to the form of the agreement, but not the amounts.

2. Andrien's Discount Factor for Invalidity of Non-Asserted Claims

The 2nd R&R recommends denying Acceleron's motion to exclude Andrien's testimony concerning the discount factor for invalidity/non-infringement and non-asserted claims. Acceleron objects generally that the special master's recommendation is incorrect.

The Court has reviewed the briefing, Andrien's report, and his deposition, and finds that there is no basis to exclude the testimony. Acceleron's objection will be overruled.

3. Andrien's Testimony on Indirect Infringement Damages

The 2nd R&R recommends granting the motion because the Court did not adopt the special master's previous recommendation that Putnam be excluded from testifying on the issue of indirect infringement.

Dell objects to the special master's conclusion that Andrien's reports did not contain any opinions as to damages resulting from indirect infringement. Dell's argument is based on Andrien's statements that he assumed the asserted claims were valid and infringed, and the Court's previous holding that similar language in Milani's report was sufficient disclosure of opinions on indirect infringement.

The outcome of Dell's pending motion for reconsideration pending before the Court could affect the outcome of this motion in limine; therefore, the Court will defer ruling on this motion until it resolves the motion for reconsideration.

4. Evidence and Argument Regarding Non-Asserted Claims of the '021 Patent

The 2nd R&R recommends granting the motion to exclude evidence and argument regarding claims of the '021 Patent that are not asserted in this case. Dell objects because the PTO's cancellation of claims 1 and 2 of the '021 Patent based on IPR is highly relevant to invalidity and damages.

Dell cannot attempt to foreclose Acceleron from bringing up the IPR proceedings and then itself be permitted to bring up IPR. The fact remains that the difference in standards, procedures, and presumptions in IPR proceedings could be extremely confusing to the jury. Moreover, the probative value of the PTAB's decision is outweighed by the expenditure of time that would be required to give the jury the full context necessary to fairly evaluate the IPR proceedings. However, Dell will be allowed to use the PTAB's determination to impeach Acceleron's witnesses should they dispute that Hipp discloses all limitations of claims 1 and 2.

Dell's objection will be overruled.

5. The Physical Ketris 9000 Unit Purchased on eBay in 2004

The 2nd R&R recommends denying Acceleron's motion to exclude Dell from introducing, mentioning, submitting evidence, or eliciting testimony regarding the Ketris 9000 unit that was purchased on eBay in 2004.

Acceleron objects because the special master did not address whether the purchased Ketris unit has the hot-swappable ethernet switch module hardware elements of claim 2 and 24. Acceleron asserts that the jury would also be confused as to whether the Ketris 9000 unit displayed at the Networld Interop Conference or the one shown later in the summer did or did not have a hot-swappable ethernet switch module. Dell responds that proof that the eBay-purchased model contains a hot-swappable ethernet switch is not necessary.

The Court finds that any issues Acceleron has raised with regard to the Ketris unit can be appropriately addressed through cross-examination, and admission of the unit would not be unduly prejudicial or confusing. Acceleron's objection will be overruled.

6. Making Non-Specific References to the Ketris System

The 2nd R&R recommends granting Acceleron's motion to preclude Dell from conflating the two separate Ketris 2000 and Ketris 9000 devices into a single Ketris System and require Dell to identify the single specific Ketris device it is relying upon for its invalidity challenge. Neither party has filed an objection, and the Court will adopt this recommendation.

7. Unauthenticated RLX/Rocket Logix Exhibits

The 2nd R&R recommends denying Acceleron's motion to exclude certain physical exhibits of purported Rocket Logix and RLX hardware. Neither party has filed an objection, and the Court will adopt this recommendation.

8. Use of Pejorative and Derogatory Terminology

The 2nd R&R recommends granting Acceleron's motion to preclude Dell from using terms like patent troll or patent assertion entity. Dell asserts that it will not use the term patent troll but should be able to use the term patent assertion entity.

Acceleron objects to the extent any question remains regarding Dell's ability to use the phrase "patent assertion entity."

The Court will allow Dell to use the terms patent assertion entity and non-practicing entity. In Acceleron's original motion, it cited multiple cases that supported its argument. In particular, it cited *Rembrandt Wireless Techs., LP v. Samsung Elec. Co.*, No. 2:13-CV-213-JRG-RSP, 2015 WL 627430, at *1 (E.D. Tex. Jan. 31, 2015), in support of its position, which *allowed* the phrase patent assertion entity. Acceleron should not be able to cite a case in support of its position and highlight that the case allowed the term patent assertion entity, but then be permitted to oppose the use of the phrase. Acceleron's objection will be overruled.

9. Testimony Regarding Dell's Alleged Unclean Hands Defense

The 2nd R&R recommends granting Acceleron's motion to preclude Dell from asserting any evidence, testimony, or argument regarding unclean hands. Dell objects because it believes that the

Court's denial of Acceleron's motion for leave to file motion for judgment on the pleadings means that the defense remains part of this case.[1]

The Court previously denied Dell's motion to amend its answer to add to its unclean hands defense and denied Acceleron's motion for leave to file a motion for judgment on the pleadings. Because the merits of the unclean hands defense have not yet been addressed by this Court, Dell's objection will be sustained.

10. Testimony from Michalson Stricken from His Reports

The 2nd R&R recommends denying Acceleron's motion to exclude invalidity opinions of Michalson as being based on flawed methodology. It also recommends denying Acceleron's alternative argument that such testimony should be excluded as outside the scope of his expert reports. The 2nd R&R came to its conclusion because the Court has already held that the Michalson may testify as to opinions not stricken in its order,

[1] Perhaps part of the confusion surrounding this objection is the Court's error in identifying Dell as the objector to the R&R on Acceleron's motion for leave to file judgment on the pleadings. In fact, it was Acceleron that filed objections. The Court has docketed a corrected version of the order.

and Dell has also represented that Michalson will not testify as to opinions contained in the stricken paragraphs of his report.

Acceleron's motion will be denied as moot. If at trial Michalson attempts to offer opinions that have been stricken, Acceleron may object.

11. The Alleged Invalidity of Claim 24 as an Issue to Be Decided at Trial

The 2nd R&R recommends granting Acceleron's motion to preclude Dell from offering any testimony or evidence on the alleged invalidity of claim 24. Dell objects because it "has invalidity arguments for Claim 24 that were neither challenged by nor eliminated as a result of Acceleron's motion to strike certain portions of Dr. Michalson's rebuttal report related to limitation 24[e]." [620] at 15.

Because the outcome of Dell's motion for reconsideration may affect this motion in limine, the Court will defer ruling until resolution of the motion for reconsideration.

12. The Alleged Invalidity of Claims 20 and 22 as an Issue to Be Decided at Trial

The 2nd R&R recommends denying Acceleron's motion to preclude Dell from offering any testimony or evidence on the alleged invalidity of claims 20 and 24.

Acceleron objects because Michalson applied a claim construction of the term "polls" that is no longer operable in the construction of this case. Acceleron's argument is based upon the Court's previous order, which modified the claim construction to hold that the construction of "polls" is "actively gathers information using methods other than queries or interrupts." Therefore, Acceleron argues that because Michalson applied only the old claim construction, his testimony is improper.

The Court does not find that Michalson's testimony is improper in light of the revised claim construction. Moreover, though Acceleron argues that it would be prejudiced because it was not able to depose Michalson under the modified claim construction, the argument is without merit.

Acceleron's objection will be overruled.

13. Introducing Evidence Dell Failed to Produce During Discovery

The 2nd R&R recommends denying this motion is moot. No objections have been filed, and the Court will adopt this recommendation.

14. Introducing Any Evidence Regarding an Opinion of Counsel in Defense of Willful Infringement

The 2nd R&R recommends granting Acceleron's motion to preclude Dell from introducing any evidence regarding any opinion of counsel in defense of willful infringement at trial. No objections have been filed, and the Court will adopt this recommendation.

III. Conclusion

For the foregoing reasons, Dell's motions [506] in limine are granted in part and denied and part, and Acceleron's motions [510] in limine are granted in part and denied in part.

IT IS SO ORDERED this 27th day of August, 2020.

Timothy C. Batten, Sr.
United States District Judge

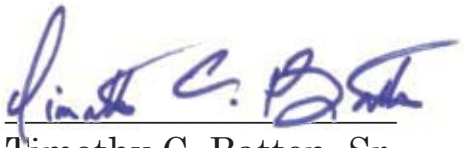
IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF GEORGIA
ATLANTA DIVISION

ACCELERON, LLC, Plaintiff, v. DELL INC., Defendant.	CIVIL ACTION FILE No. 1:12-cv-4123-TCB

J U D G M E N T

This action having come before a jury for trial upon the merits and the jury having rendered its verdict on September 22, 2021, it is ORDERED AND ADJUDGED that judgment be and hereby is entered in favor of Plaintiff Acceleron, LLC, and against Defendant Dell Inc. on infringement of Claim 3 of U.S. Patent No. 6,948,021 in the amount of TWO MILLION AND ONE HUNDRED THOUSAND DOLLARS ($2,100,000.00) in damages.

SO ORDERED this 23rd day of September, 2021.



Timothy C. Batten, Sr.
Chief United States District Judge

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF GEORGIA
ATLANTA DIVISION

ACCELERON, LLC, Plaintiff, v. DELL INC., Defendant.	CIVIL ACTION FILE No. 1:12-cv-4123-TCB

AMENDED JUDGMENT

This action having come before a jury for trial upon the merits and the jury having rendered its verdict on September 22, 2021, it is ORDERED AND ADJUDGED that judgment be and hereby is entered in favor of Plaintiff Acceleron, LLC, and against Defendant Dell Inc. for infringement of Claim 3 of U.S. Patent No. 6,948,021 in the amount of TWO MILLION AND ONE HUNDRED THOUSAND DOLLARS ($2,100,000.00) in damages.

It is further ORDERED AND ADJUDGED that judgment be and hereby is entered in favor of Defendant Dell Inc., and against Plaintiff Acceleron, LLC for non-infringement of claim 24 and invalidity of Claims 20 and 24 of U.S. Patent No. 6,948,021.

SO ORDERED this 29th day of September, 2021.

Timothy C. Batten, Sr.
Chief United States District Judge

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF GEORGIA
ATLANTA DIVISION

ACCELERON, LLC,

Plaintiff,

v.

DELL INC.,

Defendant.

CIVIL ACTION FILE

NO. 1:12-cv-4123-TCB

O R D E R

This case comes before the Court on Plaintiff Acceleron, LLC's motion [760] for new trial and motion [756] to alter or amend judgment. Also before the Court are Defendant Dell Inc.'s motion [759] for judgment as a matter of law and its motion [775] to deny or reduce Acceleron's bill of costs.

I. Background

On November 28, 2012, Acceleron filed this case alleging that Dell willfully infringed one or more claims of U.S. Patent No. 6,948,021 ("the

'021 Patent"). The case was tried before a jury from September 8 to 20, 2021. At trial, Acceleron alleged infringement of only claims 3 and 24, while Dell alleged invalidity of claims 3, 20, and 24.

After two days of deliberations, the jury returned a verdict finding that Dell directly and indirectly infringed claim 3 of the patent but did not infringe claim 24; claim 3 is not invalid due to anticipation or obviousness; and claims 20 and 24 are invalid due to anticipation. The jury awarded Acceleron a lump sum royalty payment of $2,100,000.

Acceleron now moves the Court for a new trial, and Dell has renewed its motions for judgment as a matter of law of (1) of no indirect infringement of claim 3, and (2) invalidity of claim 3 due to anticipation. Acceleron also moves the Court to amend its judgment to include pre- and post-judgment interest, and Dell moves the Court to deny or reduce Acceleron's bill of costs.

II. Discussion

A. Acceleron's Motion for New Trial

Acceleron argues that it is entitled to a new trial based on the Court's ruling granting judgment as a matter of law ("JMOL") of no

willful infringement and on the Court's rulings regarding the time period for the jury's damages calculation.

1. Legal Standard

After a jury trial, the Court may grant a new trial on some or all issues "for any reason for which a new trial has heretofore been granted in an action at law in federal court." FED. R. CIV. P. 59(a)(1)(A). Among the grounds supporting a motion for new trial is the fact that "the verdict is against the weight of the evidence, that the damages are excessive, or that, for other reasons, the trial was not fair to the party moving." *McGinnis v. Am. Home Mortg. Servicing, Inc.*, 817 F.3d 1241, 1254 (11th Cir. 2016). The movant may also "raise questions of law arising out of alleged substantial errors in admission or rejection of evidence or instructions to the jury." *Id.*

"Although a trial judge cannot weigh the evidence when confronted with a motion for judgment notwithstanding the verdict, in a motion for a new trial the judge is free to weigh the evidence." *Williams v. City of Valdosta*, 689 F.2d 964, 973 (11th Cir. 1982) (citation and internal punctuation omitted) (also noting that the court "must find the

verdict contrary to the great, and not merely the greater, weight of the evidence"). In weighing the evidence, "the trial court is to view not only that evidence favoring the jury verdict but evidence in favor of the moving party as well." *Id.* "When the jury's verdict is within the bounds of possible awards supported by evidence, its award should not be disturbed." *Carter v. DecisionOne Corp. Through C.T. Corp. Sys.*, 122 F.3d 997, 1006 (11th Cir. 1997) (citing *Narcisse v. Ill. Cent. Gulf R.R. Co.*, 620 F.2d 544 (5th Cir. 1980)).

2. Judgment as a Matter of Law of No Willful Infringement

On September 14, 2021, after the close of Acceleron's case-in-chief, Dell moved for JMOL of no willful infringement, which the Court granted. On September 16, Acceleron moved for reconsideration, which the Court denied, reiterating that no reasonable juror could conclude that Dell acted willfully.

Acceleron argues that when Dell moved for JMOL of no willful infringement, it misled the Court as to the appropriate standard for willful infringement and as a result the Court erroneously granted the

motion. Based on this error, Acceleron claims it is entitled to a new trial on all issues.

At trial, Dell argued that it was entitled to JMOL of no willful infringement

> because Acceleron has not presented a legally sufficient evidentiary basis for a reasonable jury to find willful infringement. . . . Acceleron has not presented evidence that Dell both knew of the '021 patent and that its conduct was [the] sort of conduct warranting enhanced damages under *Halo*. Such as conduct that is willful, wanton, malicious, bad faith, deliberately, consciously, wrongful, or flagrant. Notice of the patent alone without notice of infringement and without the types of intentionality and egregious conduct identified in *Halo* is insufficient evidence to support willfulness. Acceleron has not put on any evidence from which a reasonable jury could conclude that Dell committed anything other than typical infringement, or that Dell acted with the kind of egregious conduct required to establish a willful infringement or enhanced damages claim at any point. The evidence showed that Dell's actions were not malicious, wanton[,] deliberate[,] and the types of other actions that are identified in *Halo*. Dell also conten[d]s this Court's ruling that Dell had no pre-suit notice under 287 applies with equal force to willfulness. For that reason, Dell is entitled to judgment as a matter of law for no [will]ful infringement.

[761-1] at 49:10 – 50:6. After hearing from both parties, the Court agreed with Dell that "as a matter of law there has been a failure of

proof of willfulness and therefore the jury will not get [the] issue of willful infringement." *Id.* at 52:6-9.

In its motion, Dell quoted *Halo Electronics, Inc. v. Pulse Electronics, Inc.*, 579 U.S. 93, 103–04 (2016), the Supreme Court case that provides the standard for the sort of conduct warranting enhanced damages in patent cases: "willful, wanton, malicious, bad-faith, deliberate, consciously wrongful, flagrant, or—indeed—characteristic of a pirate."

At the time of Dell's motion, Acceleron did not argue that Dell cited the incorrect standard for willfulness. Importantly, the standard cited by Dell quotes the agreed-upon language in the parties' joint proposed jury instruction for willful infringement,[1] an instruction that copied verbatim the AIPLA's model jury instruction for willful infringement, which in turn cites *Halo*. *See* AIPLA Model Patent Jury Instruction V.11.0 (2019).

[1] "To show that Dell's infringement was willful, Acceleron must prove by a preponderance of the evidence [that Dell] knew of Acceleron's patent and intentionally infringed at least one asserted claim of the patent. For example, you may consider whether Defendant's behavior was malicious, wanton, deliberate, consciously wrongful, flagrant, or in bad faith." [513-20] at 139–40; *see* [766-7] at 141.

However, Acceleron now argues that Dell is guilty of conflating the standards for willfulness and enhanced damages, relying on a Federal Circuit case decided on September 28, 2021—five days after the jury returned its verdict in this case. In *SRI International, Inc. v. Cisco Systems, Inc.*, the Federal Circuit recognized the confusion created by *Halo* and clarified the willfulness standard:

> To eliminate the confusion created by our reference to the language "wanton, malicious, and bad-faith" in *Halo*, we clarify that it was not our intent to create a heightened requirement for willful infringement. Indeed, that sentence from *Halo* refers to "conduct warranting enhanced damages," not conduct warranting a finding of willfulness. . . . "[U]nder *Halo*, the concept of 'willfulness' requires a jury to find no more than deliberate or intentional infringement."

14 F.4th 1323, 1329–30 (Fed. Cir. 2021) (internal citations omitted) (quoting *Eko Brands, LLC v. Adrian River Maynez Enters., Inc.*, 946 F.3d 1367, 1378 (Fed. Cir. 2020)).

Even in light of the Federal Circuit's clarification that all that is needed for willfulness is deliberate or intentional conduct, the Court finds that Dell's discussion of the standard for willful infringement was sufficiently correct. Dell used the adverbs "deliberately," "consciously," and "intentionality" to describe willful conduct. [761-1] at 49:16-17, 19.

Despite its reference to egregious conduct, Dell's motion provided "reasonable clarity as to the correct test for willful infringement" because it informed the Court that a jury could find willful infringement if it found deliberate or intentional infringement. *See Eko Brands*, 946 F.3d at 1379 (finding that jury instruction on willfulness was not legally erroneous—despite referring to "malicious," "consciously wrongful," and "bad faith" conduct and explaining that willful infringement is "reserved for egregious behavior"—because it clarified that willful infringement can simply be "deliberate" infringement).[2]

Moreover, when arguing against Dell's JMOL motion, Acceleron emphasized that "Dell has indeed deliberately infringed, and is a deliberate infringer," [761-1] at 50:21-22, further ensuring that the Court evaluated the JMOL motion under the proper standard.

[2] Acceleron attempts to distinguish *Eko Brands* by pointing out that the court found it "significant" that the deletion of the two phrases to which Eko objected—"worthy of punishment" and "egregious behavior"—would not have cured the instruction because it would have still referred to malicious, consciously wrongful, and bad faith conduct. Though the court concluded that the instruction as a whole was not legally erroneous "given the limited nature of Eko's objection," *Eko Brands*, 946 F.3d at 1379, the Court finds the Federal Circuit's reasoning instructive.

Acceleron next argues that the Court erred in granting Dell's JMOL motion because it had presented sufficient evidence for the jury to find willful infringement when considered under the correct legal standard. Dell responds that this argument is an improper second request for reconsideration of the Court's grant of JMOL of no willfulness.

In response to Dell's motion for JMOL of no willfulness, Acceleron argued that the totality of the circumstances show that Dell "deliberately" infringed because it "had notice of this patent" from pre-suit letters and yet "continued on as business as usual." *Id.* at 50:11-12, 21. Dell made no changes to the accused products in light of the '021 Patent, did not get a legal opinion as to infringement, and released new infringing products after the lawsuit was filed. Further, in a 2014 deposition, one of Dell's engineers testified that a component of an accused product might be a caddy, which is recited in claim 3.

Dell then replied, "[t]he standard for willfulness is not business as usual. The standard for willfulness is high, as the Supreme Court has explained in *Halo*. We simply disagree that there is evidence from

which a reasonable jury here could find willful infringement." *Id.* at 52:1-5. The Court agreed with Dell and granted the motion.

In its motion for new trial, Acceleron reiterates the evidence it presented at trial that it believes was sufficient to at least get the question of willfulness to the jury: (1) the two 2007 letters Acceleron sent to Dell informing it of the '021 Patent;[3] (2) Dell's awareness in 2008 of Acceleron's suits against Dell's competitors; (3) the fact that Dell made no changes to its products after learning of the '021 Patent; (4) Acceleron's lawsuit against Dell in 2012; (5) Dell's continued sales of accused products after 2012 and release of additional products that were based on a product accused of infringement in 2012; and (6) the admission of Dell's IPR expert, Dr. Robert Horst, in a 2014 deposition that the accused products included "carriers," which were possibly the "caddies" recited in claim 3 of the patent.[4] Acceleron also points to testimony that after learning of the patent, Dell did not investigate

[3] The letters identified the patent, provided a copy of the patent, and "invite[d] Dell to have a discussion about the patent." [761-5] at 76:10-11; *see id.* at 80:8-9. They also explained that the patent relates to blade servers. Neither accused Dell of infringement. *Id.* at 80:23-25.

[4] Dr. Horst also opined that claim 3 of the '021 Patent was invalid.

infringement or validity and did not obtain a non-infringement opinion from counsel.[5]

Upon a third consideration, the Court does not find this evidence to be enough to overcome Dell's motion for JMOL of no willful infringement. Although the Federal Circuit has since explained that it did not mean to impose a "heightened requirement" for willfulness, *SRI Int'l, Inc.*, 14 F.4th at 1330, deliberate or intentional infringement requires more than the evidence Acceleron offered at trial.

After *Halo*, in considering whether evidence is sufficient to support a finding of willfulness, courts determine "whether the evidence, when viewed in the light most favorable to [the patentee], was sufficient to prove by a preponderance of the evidence that [the infringer] acted despite a risk of infringement that was either known or so obvious that it should have been known to [the infringer]." *WCM Indus., Inc. v. IPS Corp.*, 721 F. App'x 959, 970 (Fed. Cir. 2018) (citing *Arctic Cat Inc. v. Bombardier Recreational Prods. Inc.*, 876 F.3d 1350,

[5] This testimony occurred during Dell's case-in-chief, evidence that was not available to Court at the time of Dell's JMOL motion but was before the Court at the time of Acceleron's motion for reconsideration.

1371 (Fed. Cir. 2017)); *see also Wrinkl, Inc. v. Facebook, Inc.*, No. 20-cv-1345-RGA, 2021 WL 4477022, at *2 (D. Del. Sept. 30, 2021) (explaining that "[A] finding of 'subjective willfulness,' proof that the defendant acted in the face of a risk of infringement that was 'either known or so obvious that it should have been known to the accused infringer,'" can satisfy the deliberate or intentional infringement standard (citation omitted)).[6] Courts look to the "totality of the circumstances" to determine whether an act was willful. *WCM Indus., Inc.*, 721 F. App'x at 970 (quoting *Shiley, Inc. v. Bentley Labs., Inc.*, 794 F.2d 1561, 1568 (Fed. Cir. 1986)).

In considering the totality of the circumstances, Acceleron has not presented evidence of subjective intent to infringe. "Knowledge of the asserted patent and evidence of infringement is necessary, but not sufficient, for a finding of willfulness." *Bayer Healthcare LLC v. Baxalta*

[6] This language is derived from a now-overturned test for whether a court may award enhanced damages. *See In re Seagate Tech., LLC*, 497 F.3d 1360, 1371 (Fed. Cir. 2007), *abrogated by Halo*, 579 U.S. at 103–10. But despite Dell's assertion to the contrary, "*Halo* did not disturb the substantive standard for the second prong of *Seagate*, subjective willfulness." *Arctic Cat Inc.*, 876 F.3d at 1371 (quoting *WesternGeco LLC v. ION Geophysical Corp.*, 837 F.3d 1358, 1362 (Fed. Cir. 2016), *rev'd on other grounds*, 138 S. Ct. 2129 (2018)).

Inc., 989 F.3d 964, 988 (Fed. Cir. 2021) (citing *Eko Brands*, 946 F.3d at 1378) (finding that the district court did not err in granting defendant's motion for JMOL of no willfulness). Dell's knowledge of the asserted patent and of Acceleron's other lawsuits, its decision to continue to manufacture and sell its products without changes, and Acceleron's allegations of infringement were not enough for a reasonable jury to find that infringement was either known or so obvious that it should have been known.

In arguing that the Court's grant of JMOL of no willful infringement was error, Acceleron relies primarily on two cases where district courts declined to overturn a jury's finding of willfulness—both of which it cited in its motion for reconsideration: *Packet Intelligence LLC v. NetScout Systems, Inc.*, No. 2:16-CV-00230-JRG, 2019 WL 2375218 (E.D. Tex. June 5, 2019), and *Milwaukee Electric Tool Corp. v. Snap-On Inc.*, 288 F. Supp. 3d 872 (E.D. Wisc. 2017). But these cases are distinguishable.

In *Packet Intelligence*, the district court concluded that the jury's willfulness verdict was supported by substantial evidence. The

defendant's corporate representative admitted that though he had not read the patents-in-suit, he believed the named inventor "lied and stole the claimed inventions," and the defendant's CEO testified that he could not recall reviewing the asserted patents or even a summary about them. 2019 WL 2375218, at *8. The court also found that the jury was entitled to consider the defendant's decision to continue to sell the accused products after the suit was filed. The Federal Circuit affirmed in relevant part. *Packet Intel. LLC v. NetScout Sys., Inc.*, 965 F.3d 1299, 1315–16 (Fed. Cir. 2020).

Here, though Dell did continue to sell the accused products after this suit was filed, there was no such corporate testimony indicating that infringement was either known or so obvious that it should have been known. Indeed, Acceleron presented evidence that when it accused Dell of infringement in 2012, Dell investigated the allegations and concluded that it did not infringe the '021 Patent and that the patent is invalid. [761-4] at 15:13-18.

Milwaukee Electric is similarly distinguishable. There, the testimony showed "an ongoing lack of concern about the potential for

infringement" on the part of the defendant. *Milwaukee Elec. Tool Corp.*, 288 F. Supp. at 887. Like in this case, the defendant in *Milwaukee Electric* did not perform research in response to a pre-suit licensing letter to determine whether its products—which were developed and launched years before the letter was sent—might infringe the asserted patents, and it declined to make changes to its accused products. Unlike this case, however, the defendant's head engineer had performed a study of the asserted patents and concluded that the patents *were related* to their business; nevertheless, the matter was not considered further. Ultimately, the district court found that the jury's finding of willfulness could reasonably be based on this evidence.

The Court is not persuaded by *Milwaukee Electric*. Although Acceleron elicited testimony during Dell's case-in-chief that Dell did not conduct an infringement or validity analysis after receiving the 2007 letters, Acceleron did present testimony during its own case-in-chief that Dell responded to the first letter by asking Acceleron to send a signed disclosure agreement describing the technology at issue so that Dell could determine whether it would be interested in further

discussions. Acceleron also presented evidence that once it was accused of infringement in 2012, Dell undertook an infringement and validity analysis. In short, Acceleron did not present evidence of such "head-in-the-sand" conduct as in that case. *Id.* at 887–88; *cf. Erfindergemeinschaft UroPep GbR v. Eli Lilly & Co.*, No. 2:15-CV-1202-WCB, 2017 WL 2190055, at *2 (E.D. Tex. May 18, 2017) (concluding that a pre-suit letter that did not set out the strength of the patent-holder's infringement case or address validity was not sufficient evidence to justify submitting the willfulness issue to the jury where the letter was sent years after the defendant began marketing its accused product and the defendant developed the accused product without consulting the patent, but citing *Halo*'s "egregious" language).

In reviewing the record, the Court reaffirms its conclusion that Acceleron did not meet its burden of providing sufficient evidence for a jury to find that Dell's infringement was deliberate or intentional. Thus, the Court did not err in granting Dell's motion for JMOL of no

willfulness, and Acceleron's motion for a new trial on this basis will be denied.[7]

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[7] The Court also notes that "the question whether the issue of willfulness should have been submitted to the jury is rendered largely moot" by the fact that the Court would not have enhanced damages under 35 U.S.C. § 284 even if the jury had found willful infringement. *See Eli Lilly & Co.*, 2017 WL 2190055, at *3; *see also Arctic Cat Inc.*, 876 F.3d at 1371 (refusing to adopt a blanket rule that a district court abuses its discretion by deciding an issue without receiving briefing from the parties); *Exergen Corp. v. Kaz USA, Inc.*, 725 F. App'x 959, 971–72 (Fed. Cir. 2018) (rejecting the argument that a jury must consider willfulness before the district court may exercise its discretion to deny enhanced damages because the Supreme Court in *Halo* rejected such inelastic rules (citations omitted)).

The decision of whether to enhance damages on a finding of willfulness is for the Court. *Halo*, 579 U.S. at 106; *Polara Eng'g Inc. v. Campbell Co.*, 894 F.3d 1339, 1353 (Fed. Cir. 2018) (citations omitted). Enhanced damages "are not to be meted out in a typical infringement case"; they are reserved for egregious infringement behavior. *Halo*, 579 U.S. at 103. The factors set forth in *Read Corp. v. Portec, Inc.*, 970 F.2d 816 (Fed. Cir. 1992), *abrogated in part on other grounds by Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996), are relevant to an award of enhanced damages. However, these factors are "non-exclusive," *Georgetown Rail Equipment Co. v. Holland LP*, 867 F.3d 1229, 1244 (Fed. Cir. 2017), and the district court must consider the particular circumstances of each case and all relevant factors in determining whether to award enhanced damages, *Polara Engineering Inc.*, 894 F.3d at 1355 (quoting *Halo*, 579 U.S. at 106; *WesternGeco LLC*, 837 F.3d at 1363).

Here, Dell's conduct was not sufficiently egregious to warrant enhanced damages. The duration of Dell's misconduct and its lack of remedial action weigh in Acceleron's favor, but a majority of the *Read* factors and the totality of the circumstances cut against an award of enhanced damages. There was no evidence of deliberate copying, no evidence of an attempt to conceal misconduct or of improper litigation behavior, and no showing that Dell was motivated to harm Acceleron. *Read*, 970 F.2d at 827. Moreover—and importantly—this was a close case. At trial, each side presented reasonable arguments in its favor and was able to vindicate its rights: Acceleron succeeded in proving infringement and validity of claim 3; Dell succeeded on its defenses of noninfringement for claim 24 and invalidity for claims 20 and 24. In sum, this is not a case of egregious conduct beyond typical

3. Damages Time Period

Acceleron next argues that it is entitled to a new trial due to what it contends was an erroneous evidentiary ruling and jury instruction that removed pre-November 28, 2012 infringing activity from the jury's damages calculation.

a. Damages Period Evidentiary Ruling

At trial, the Court re-opened evidence for Acceleron's benefit so that Acceleron could correct a flaw in the opinion of its damages expert, Michael Milani.

Milani's opinion at trial was that Acceleron was entitled to a reasonable royalty of $46 million in the form of a running royalty. This figure accounted for a finding of both direct and indirect infringement of claims 3 and 24, and it considered products accused of indirect infringement beginning in 2006.

After the close of Acceleron's evidence, the Court granted judgment for Dell of no indirect infringement for the time period before Dell received notice of the '021 Patent in 2007. Because Milani's opinion

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infringement. Thus, the Court would have exercised its discretion to deny an award of enhanced damages even if the jury had considered and found willfulness.

did not apportion damages for direct and indirect infringement from 2006 to 2007, the Court recognized that Acceleron had an evidentiary problem and ruled that Milani would be allowed to revise his damages calculation to cure the pre-2007 issue.

"[I]n an abundance of caution" and "to give the jury options," Acceleron initially sought to introduce at least two[8] revised damages calculations: one beginning September 18, 2007 (the date of the first letter) in the event the jury found direct and indirect infringement prior to the filing of the complaint, and one beginning November 28, 2012 in the event the jury found both direct and indirect infringement only after the filing of the complaint. [761-7] at 18:12-13.

The Court heard lengthy arguments from the parties as to the nature and admissibility of any recalculations, and the Court and the parties conducted a voir dire of Milani. The Court initially indicated that it would allow the revised testimony despite evidentiary concerns and acknowledged that it was a close question. Dell objected, arguing

[8] Acceleron later indicated that it had hoped to present three revised damages periods, the third beginning in 2008.

that there is a difference between offering one correct number and offering alternative numbers, either of which could be "right." *Id.* at 19:11-18. In light of this objection and the Court's concern that the issue may be revisited should the jury return a plaintiff's verdict, Acceleron requested "the opportunity to present at least one of those alternatives." *Id.* at 19:25 – 20:1. The Court granted this request and ruled that Acceleron would be allowed to present one revised number.

At first, the Court ruled that Acceleron could present only the revised damages time period beginning in 2007, agreeing with Dell that the 2012 number was unrelated to the Court's judgment of no indirect infringement pre-2007.

Acceleron filed a motion to reconsider, asking the Court to permit Milani to testify to both damages periods and explaining that he would not be offering a "new damages opinion" or "new methodology." [729] at 5. The Court heard argument on the motion, at the end of which counsel for Acceleron suggested, "if we are going to have to move [dates], can we at least pick the date? . . . I have asked the Court for two, but if the Court is not inclined to give me two, can we at least have the one that

Acceleron wants?" [761-8] at 10:22-23; 10:25 – 11:2. The Court reaffirmed its decision to allow only one revised damages period but permitted Acceleron to select which date to present to the jury. To avoid any future challenge, Acceleron selected the more conservative 2012 date.

Acceleron now argues that the Court's decision to exclude pre-suit sales from the royalty base calculation was arbitrary and unfair. [761] at 23. But Acceleron mischaracterizes the events; it was Acceleron's voluntary decision that excluded pre-suit sales from the jury's damages calculation.

The Court heard ample argument on the issue across several days and repeatedly expressed frustration with the last-minute nature of the dispute. However, after acknowledging that it could be "near fatal to . . . [Acceleron's] case on damages" if Milani was not permitted to revise his damages figure, [761-8] at 11:19-20, it offered Acceleron a "life preserver." [761-7] at 19:6.

The Court's ruling was not arbitrary. It was born out of concern over presenting to the jury expert testimony—new and alternative

calculations—not disclosed in an expert report and not sufficiently examined by Dell's expert. The Court generously accommodated Acceleron's additional evidence because it foresaw the problem with Milani's single, composite royalty figure that did not apportion the damages attributable to direct and indirect infringement—a problem Acceleron should have also foreseen.

Ultimately, the Court carefully balanced the survival of Acceleron's damages case with potential prejudice to Dell and concluded that the fairest outcome would be to re-open the evidence and permit Acceleron to present one additional, modified figure to the jury. It was Acceleron who suggested that it be allowed to choose which modified date, and Acceleron who selected November 28, 2012, thereby excluding pre-suit damages from Milani's reasonable royalty calculation.

Moreover, the Court's evidentiary ruling did not result in substantial prejudice to Acceleron. *See, e.g.*, *Caradigm USA LLC v. PruittHealth, Inc.*, 964 F.3d 1259, 1274 (11th Cir. 2020) ("'[A] new trial is warranted only' where an error in admitting or excluding evidence 'has caused substantial prejudice to the affected party . . . .'" (quoting

Peat, Inc. v. Vanguard Rsch., Inc., 378 F.3d 1154, 1162 (11th Cir. 2004))).

Milani's first reasonable royalty amount in the form of a running royalty was $46 million, and his revised amount was close to $41 million. If he had been permitted to provide a second revised calculation beginning in 2007, the amount would have been roughly $45.3 million. [761-6] at 2. The jury, however, did not adopt Milani's running royalty damages theory. Instead, it adopted the damages theory of Dell's damages expert, Jeff Andrien, to award Dell a lump sum royalty of $2.1 million. Acceleron has not shown that the Court's decision to allow Milani to present a single, revised damages figure resulted in substantial prejudice.

The Court's evidentiary ruling regarding the revised damages period was neither arbitrary and unfair nor prejudicial, and Acceleron is not entitled to a new trial on this basis.

b. Damages Period Jury Instruction

As a result of the Court's evidentiary ruling and Acceleron's decision to exclude pre-suit damages from Milani's reasonable royalty

calculation, the Court gave the following jury instruction regarding damages: "The time period for any damages calculation is from November 28, 2012 through June 30, 2021 if using a running royalty or through the expiration of the patent if using a lump sum royalty." [740] at 44.

Acceleron argues that this damages period instruction was plain error because the jury was not permitted to consider damages for certain periods of time for which Acceleron proved infringement. Dell responds that the instruction—which was agreed to by both parties—reflects Acceleron's decision not to present evidence of or seek pre-suit damages. Dell also argues that the jury's verdict fully complies with 35 U.S.C. § 264's requirement that the damages award account for all infringing activity.

On day eight of the trial, after Milani testified as to his revised damages calculation assuming that the damages period would begin at the filing date of the complaint, [761-8] at 95:10-11, the parties resumed debate over the damages period jury instruction. Counsel for Dell asked, "Your Honor, we wanted to confirm our understanding that

Acceleron is no longer seeking to [sic] damages for the time period prior to November 28th, 2012[.] [T]hat is how we understood how everything came out this morning, but wanted to confirm that with Acceleron." *Id.* at 132:7-11. Counsel for Acceleron confirmed, "I think that is the position we have taken and I don't think I am going to make anymore [sic] changes to it." *Id.* at 132:12-14.

Accordingly, Dell proposed the damages period language that the Court ultimately adopted. Acceleron endorsed the language, agreeing that it would be "completely correct" to eliminate the possibility of damages for any time period prior to the filing date of the complaint. *Id.* at 133:7. Dell again clarified how the instruction would read, "[u]nderstanding [Acceleron's] representation that [it is] not pursuing damages before the filing date." *Id.* at 134:3-5. And Acceleron's counsel responded, "I think that actually works better." *Id.* at 134:6.

Acceleron has not shown that the jury instruction "affected [its] substantial rights" or that not correcting the alleged error would "seriously affect the fairness of the judicial proceeding." *Farley v. Nationwide Mut. Ins. Co.*, 197 F.3d 1322, 1329 (11th Cir. 1999) (citing

United States v. Humphrey, 164 F.3d 585, 588 n.3 (11th Cir. 1999)). The damages period jury instruction was agreed upon only after Acceleron twice affirmed that it no longer sought damages before the filing date of the complaint. Thus, it was appropriate, not erroneous, for the Court to instruct the jury accordingly.

Moreover, Acceleron has not shown that the jury's verdict did not comply with 35 U.S.C. § 284. Section 284 mandates that upon a finding of infringement, "the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty." There is a presumption of damages where infringement has been established, and accordingly a reasonable royalty may be awarded even without competent expert testimony. *Dow Chem. Co. v. Mee Indus., Inc.*, 341 F.3d 1370, 1381–82 (Fed. Cir. 2003); *see also Info-Hold, Inc. v. Muzak LLC*, 783 F.3d 1365, 1372 (Fed. Cir. 2015) (citing *id.*).

Acceleron insists that the instruction explicitly contravenes § 284 because it excluded infringing sales from the jury's determination of a reasonably royalty. The jury found that all of Dell's accused products

directly and indirectly infringed claim 3 of the '021 Patent; thus, it necessarily found infringing activity by Dell prior to November 28, 2012. And "the Patent Act mandates no less 'than a reasonable royalty' for every infringing sale." *Crystal Semiconductor Corp. v. TriTech Microelectornics Int'l, Inc.*, 246 F.3d 1336, 1355 (Fed. Cir. 2001) (quoting 35 U.S.C. § 284).

But § 284's mandate is not unlimited;[9] it does not relieve Acceleron of its obligation to prove damages or the consequences of its litigation decisions. *See, e.g.*, *TecSec, Inc., v. Adobe Inc.*, 978 F.3d 1278, 1291 (Fed. Cir. 2020) ("[W]e have observed that there can be an award of no damages where 'none were proven.'" (quoting *Gustafson, Inc. v. Intersystems Indus. Prods., Inc.*, 897 F.2d 508, 509–10 (Fed. Cir. 1990))); *Info-Hold, Inc.*, 783 F.3d at 1372 (explaining that where a patentee's proof of damages is weak, § 284 permits an award of nominal damages, and citing *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1328 (Fed. Cir. 2014)).

[9] For example, § 284 is subject to a six-year limitations period, 35 U.S.C. § 286, and the marking requirement, *id.* § 287. Thus, the act contemplates that some infringing acts may be outside the scope of recovery.

Nor does § 284 "require an award of damages if none are proven that adequately tie a dollar amount to the infringing acts." *TecSec, Inc.*, 978 F.3d at 1291 (finding that the district court did not err in concluding that the jury's damages award was not supported by evidence where the jury found only direct infringement and the patentee presented no evidence of damages caused by direct infringement).

Further, "a patent owner may waive its right to a damages award when it deliberately abandons valid theories of recovery in a singular pursuit of an ultimately invalid damages theory." *Promega Corp. v. Life Techs. Corp.*, 875 F.3d 651, 666 (Fed. Cir. 2017). Acceleron represented to the Court and Dell that it had abandoned its request for pre-suit damages. And it elected not to present competent evidence of pre-suit damages. Thus, it was not plainly erroneous for the Court to decline (at the parties' request) to instruct the jury on pre-suit damages.

For the foregoing reasons, Acceleron's motion for new trial will be denied.

B. Dell's Motion for Judgment as a Matter of Law

Pursuant to Rule 50(b), Dell renews its motions for judgment as a matter of law that (1) it has not indirectly infringed claim 3 of the '021 Patent, and (2) claim 3 is invalid as anticipated by prior art—namely, the Ketris 9000 system.

1. Legal Standard

Judgment as a matter of law should be granted "only when the plaintiff presents no legally sufficient evidentiary basis for a reasonable jury to find for him on a material element of his cause of action." *Howard v. Walgreen Co.*, 605 F.3d 1239, 1242 (11th Cir. 2010) (quoting *Pickett v. Tyson Fresh Meats, Inc.*, 420 F.3d 1272, 1278 (11th Cir. 2005)). The evidence must be "so overwhelmingly in favor of the moving party that a reasonable jury could not arrive at a contrary verdict." *Middlebrooks v. Hillcrest Foods, Inc.*, 256 F.3d 1241, 1246 (11th Cir. 2001) (citing *Slicker v. Jackson*, 215 F.3d 1225, 1229 (11th Cir. 2000)).

When reviewing a Rule 50(b) motion, the Court must consider the evidence presented at trial, drawing all reasonable inferences in favor of the nonmoving party and disregarding all evidence favorable to the

moving party that the jury is not required to believe. *Cleveland v. Home Shopping Network, Inc.*, 369 F.3d 1189, 1192–93 (11th Cir. 2004) (quoting *Reeves v. Sanderson Plumbing Prods.*, 530 U.S. 133, 148–51 (2000)). If the evidence presented at trial presents a sufficient disagreement such that "reasonable and fair-minded persons in the exercise of impartial judgment might reach different conclusions," a motion for judgment as a matter of law must be denied. *Mendoza v. Borden*, 195 F.3d 1238, 1244 (11th Cir. 1999) (quoting *Walker v. NationsBank of Fla., N.A.*, 53 F.3d 1548, 1555 (11th Cir. 1995)).

2. Indirect Infringement of Claim 3

The jury found that Dell indirectly infringed claim 3 of the '021 Patent by induced infringement, infringement under 35 U.S.C. § 271(f)(1) (infringement by supply of all or a substantial portion of the patented invention to another country), and infringement under § 271(f)(2) (infringement by supply of components especially made or adapted for use in the patent invention in another country).

Dell argues that it is entitled to JMOL of no indirect infringement of claim 3 because Acceleron failed to present legally sufficient evidence

from which a reasonable jury could have found that Dell had the requisite mental state to be liable for indirect infringement.

Induced infringement under 35 U.S.C. § 271(b) requires proof that Dell knew or showed willful blindness to the fact that the actions of its customers—the induced acts—constituted infringement of the asserted patent. *Global-Tech Appliances, Inc. v. SEB S.A.*, 563 U.S. 754, 766–68 (2011). The parties agree that infringement under § 271(f)(1) and (f)(2) requires a similar mental state. *See, e.g.*, *Zoltek Corp. v. United States*, 672 F.3d 1309, 1334 n.6 (Fed. Cir. 2012) (Dyk, J., dissenting) ("The language of section 271(f) itself mimics the language of the indirect infringement provisions of sections 271(b) and (c)." (citing 35 U.S.C. § 271(b), (c), and (f))).

According to Dell, Acceleron failed to prove that Dell knew or was willfully blind to the fact that its customers' induced actions would infringe claim 3 of the '021 Patent. Acceleron responds that there is substantial evidence to show that Dell was at least willfully blind to infringement.

For the jury to find willful blindness in this case, (1) Dell must have subjectively believed that there was a high probability that its customers' use of the accused products infringed claim 3; and (2) Dell must have taken deliberate actions to avoid learning of infringement. *Global-Tech*, 563 U.S. at 769 (citations omitted); *see also* [740] at 20. "Deliberate indifference" to a "known risk" that induced acts are infringing is insufficient to show willful blindness. *Global-Tech*, 563 U.S. at 770. It requires "active efforts by an inducer to avoid knowing about the infringing nature of the activities." *Id.*; *see also Commil USA, LLC v. Cisco Sys., Inc.*, 575 U.S. 632, 642 (2015) (explaining that knowledge that acts "might infringe" is insufficient to prove induced infringement).

Intent to induce infringement may be proven by circumstantial evidence, *GlaxoSmithKline LLC v. Teva Pharmaceuticals USA, Inc.*, 7 F.4th 1320, 1327 (Fed. Cir. 2021) (citation omitted), and need only be proven by a preponderance of the evidence, *Warsaw Orthopedic, Inc. v. NuVasive, Inc.*, 824 F.3d 1344, 1348 (Fed. Cir. 2016).

First, Dell argues that Acceleron did not present any evidence supporting the subjective belief prong of the willful blindness test: that Dell subjectively believed there was a high probability that its customers were infringing the '021 Patent. Acceleron counters that it presented substantial evidence that since at least 2008, Dell was aware of the '021 Patent and its relation to Dell's blade server products, and it knew that comparable blade server products were accused of infringing the patent.[10]

The evidence at trial was that Acceleron's 2007 letters provided Dell with actual notice of the patent. The September letter sent to Dell's senior vice present and general counsel identified the patent and enclosed a copy of it. Dell's corporate representative Matt Kleiman testified that the fact that the patent was attached to the letter suggests that Dell was aware of the '021 Patent at that time.

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[10] While the Court agrees with Dell that Acceleron dropped its request for pre-suit damages, it is not persuaded that pre-suit indirect infringement is necessarily no longer at issue. Regardless, the Court finds that pre-suit intent may be considered for post-suit induced infringement. *Warsaw*, 824 F.3d at 1347 (reaffirming that the "requisite intent to induce infringement may be inferred from all of the circumstances" (quoting *Broadcom Corp. v. Qualcomm Inc.*, 543 F.3d 683, 699 (Fed. Cir. 2008))).

The letters also identified that the '021 Patent pertains to blade servers and had relevance to Dell's blade server products. Dell admitted that in 2008 it was aware of the existence of the patent and of Acceleron's suit against several of its competitors, including Hewlett-Packard Co. ("HP") and International Business Machines Corp. ("IBM"). And the jury heard ample testimony about the similarities between HP's and IBM's blade server products and Dell's blade server products.

For example, Dell's engineer Greg Casey explained that like Dell's server modules, IBM's Blade Center and HP's C-series server modules also have metal shrouds (what the '021 Patent calls a "caddy") around their server planars (what the '021 Patent calls a "CPU module"). Dell's technical expert Dr. Bill Michalson agreed that Dell's accused products "do similar things in similar ways" and have "very similar-looking blades" as HP's products: they both have chassis that "support similar kinds of mid planes," support the "same sorts of ethernet switch cards," have modular power supplies, and are hot swappable. [761-7] at 117:5-11. Finally, Dell's damages expert Jeff Andrien confirmed for the jury that Dell personnel consider Dell's products to be comparable to those of

HP. The Court finds that based on this evidence, a reasonable jury could properly conclude that Dell subjectively believed there was a high probability that its products infringed claim 3.

Dell counters by citing evidence supporting a lack of any subjective belief of a high probability of infringement. The 2007 letters did not accuse Dell of infringement; there is no evidence that Dell agreed with the letters that the '021 Patent related to its blade server products; there is no evidence that Dell thought Acceleron's 2008 lawsuit had merit; and Kleiman testified that Dell does not believe it infringes Acceleron's patent. Dell also cites the testimony of its senior engineer Shawn Dube, who identified technical features in Dell's accused products that distinguished them from claim 3 of the patent. But at most, this shows a "conflict in substantial evidence" sufficient to withstand JMOL. *Walker*, 53 F.3d at 1555 (quoting *Verbraeken v. Westinghouse Elec. Corp.*, 881 F.2d 1041, 1045 (11th Cir. 1989)).

Next, Dell argues that Acceleron did not present evidence in support of the deliberate avoidance prong of the willful blindness test: that Dell took deliberate actions to avoid learning of infringement.

The evidence at trial revealed that Dell did not conduct a review of the '021 Patent or an infringement analysis until after Acceleron filed this lawsuit in 2012. Dell's interrogatory answers and Kleiman's trial testimony offer an explanation for that decision: Dell initiated the legal process of reviewing the accused products and technology once it was accused of infringement. The jury heard evidence of Dell's patent review policy, which determines whether Dell is being accused of infringement:

> When Dell's legal department receives a letter from a third party, Dell evaluates the letter to determine if it accuses Dell of infringing the third party's intellectual property. When performing this analysis Dell considers factors such as whether the correspondence is from a legal representative of the patent owner, whether the correspondence states that patent rights are being or may be asserted against Dell, whether the correspondence includes an identification of the patent, whether the correspondence states that Dell is or may be infringing a patent, whether the correspondence includes an identification of specific products accused of infringement, whether the correspondence indicates that the sender has evaluated Dell's products to assess whether a patent is relevant to those products, whether the correspondence includes an explanation of why Dell's products are alleged to infringe the patents including claim charts, and whether the correspondence . . . proposes an action to abate the alleged infringement.

[761-4] at 15:18 – 16:11. Based on this review process, Dell did not determine that it was accused of infringement until 2012.

Acceleron argues that this review process—in conjunction with Kleiman's testimony that Dell chose not to investigate the '021 Patent after receiving the letters—is evidence of deliberate actions taken to avoid learning of infringement. A reasonable jury could conclude that the review process was created to allow Dell to be willfully blind to any infringement. *See, e.g.*, *Motiva Pats., LLC v. Sony Corp.*, 408 F. Supp. 3d 819, 834 (E.D. Tex. 2019) (finding that the plaintiff plausibly alleged willful blindness by alleging that the defendant had a policy or practice of not reviewing third-party patents).

Acceleron also points to evidence that Dell continued selling the accused M1000e products and released new accused products after the lawsuit began without making design changes. Finally, it highlights the lack of corroborating evidence—such as advice of counsel[11]—that Dell

[11] For lawsuits commenced prior to January 14, 2013, the jury may consider the failure of the infringer to obtain the advice of counsel with respect to infringement—or the failure of the infringer to present such advice at trial—as evidence of the infringer's mental state for inducement. *See Carnegie Mellon Univ. v. Marvell Tech. Grp., Ltd.*, No. 09-290, 2013 WL 4511293, at *3 n.13 (W.D. Pa. Aug. 23, 2013); *see, e.g.*, *Suprema, Inc. v. Int'l Trade Comm'n*, 626 F. App'x 273, 282 (Fed. Cir. 2015) (citing *Broadcom Corp.*, 543 F.3d at 699).

conducted an infringement analysis and determined that the accused products did not infringe.

Dell responds that merely ignoring a high probability of infringement is not enough to show willful blindness; the Federal Circuit requires "active efforts" by an inducer to avoid learning of infringement. *Global-Tech*, 563 U.S. at 770. It also argues that its post-suit sales without design changes do not show such active avoidance; rather, they are consistent with its belief of non-infringement. Finally, Dell cites evidence of active steps it took to *learn* of infringement: it responded to the September 2007 letter by inviting further discussion and requesting a disclosure of the technology at issue (which Acceleron did not provide).

While "deliberate indifference" to a "known risk" of infringement is not enough to show willful blindness, *Global-Tech*, 563 U.S. at 770, "an affirmative act to remain ignorant" of infringement is sufficient, *Largan Precision Co., v. Genius Electronic Optical Co.*, 86 F. Supp. 3d 1105, 1120 (N.D. Cal. 2015). At least one court has held that under *Global-Tech*, "[c]reating a policy prohibiting review of patents is a

specific kind of 'deliberate action to avoid learning' of potential infringement." *Motiva Pats., LLC*, 408 F. Supp. 3d at 833 (alteration adopted) (quoting *Global-Tech*, 563 U.S. at 768).

Though Dell's patent review policy does not explicitly prohibit the review of third-party patents, the Court finds that a reasonable jury considering all the evidence could conclude that Dell took affirmative actions to avoid reviewing the '021 Patent or confirming patent infringement. *See MONEC Holding AG v. Motorola Mobility, Inc.*, 897 F. Supp. 2d 225, 230 (D. Del. 2012) (citations omitted); *see also United States v. Adams*, No. 3:11-cr-54-02, 2012 WL 12864921, at *2 (N.D.W. Va. Jan. 11, 2012) (in a criminal case, explaining that "[c]losing one's eyes deliberately and purposely is an affirmative act" and meets the second *Global-Tech* requirement). The evidence is not so overwhelmingly in favor of Dell that a reasonable jury could not have found in favor of Acceleron.

Finally, Acceleron argues that the weakness of Dell's non-infringement positions can support the jury's finding of willful blindness, citing *Warsaw*, 824 F.3d at 1348–51. In *Warsaw*, the Federal

Circuit found that the jury could reasonably have concluded that the accused infringer's "non-infringement position was objectively unreasonable" and thus that it "must have known, or was willfully blind to" infringement. *Id.* at 1351; *see also id.* at 1351 n.2 ("To show the intent to induce infringement, it is sufficient that the plaintiff establish that a defendant's asserted belief in non-infringement was unreasonable."). However, the Federal Circuit has since clarified that the proper focus of the indirect infringement analysis is the subjective knowledge of the accused infringer. *Unwired Planet, LLC v. Apple Inc.*, 829 F.3d 1353, 1363–64 (Fed. Cir. 2016).

Having found sufficient evidence to support a finding that Dell subjectively believed there was a high risk of infringement, the Court declines to consider the objective reasonableness of Dell's non-infringement positions as part of the willful blindness analysis in this case. *See also Asia Vital Components Co. v. Asetek Danmark A/S*, 377 F. Supp. 3d 990, 1018 (N.D. Cal. 2019) (explaining that while a good faith non-infringement belief is relevant to whether the accused inducer had the requisite intent to be liable for induced infringement, a finding

that non-infringement defenses are strong at most creates a factual question as to the accused infringer's subjective beliefs (citing *Commil USA, LLC v. Cisco Sys., Inc.*, 720 F.3d 1361, 1367–68 (Fed. Cir. 2013), *vacated in part on other grounds*, 575 U.S. 632; *Warsaw*, 824 F.3d at 1351 n.2; *Unwired Planet, LLC*, 829 F.3d at 1363).

Because Acceleron presented sufficient evidence to support the jury's finding that Dell was willfully blind to infringement of claim 3, Dell's motion for JMOL of no indirect infringement of claim 3 will be denied.

3. Claim 3 Invalid as Anticipated by Ketris 9000

Dell next argues that it is entitled to JMOL that claim 3 is invalid because there is no legally sufficient evidentiary basis for a reasonable jury to conclude that the Ketris 9000 system did not anticipate claim 3 of the '021 Patent. According to Dell, overwhelming evidence at trial showed that the Ketris 9000 system is prior art because it (1) was publicly available before any date of invention, and (2) included all limitations of claim 3.

Because a patent is presumed valid, the burden of proving its invalidity is on the party asserting invalidity. *Microsoft Corp. v. i4i Ltd. P'ship*, 564 U.S. 91, 95 (2011) (quoting 35 U.S.C. § 282). An invalidity defense must be proved by clear and convincing evidence. *Id.*

a. Public Use of Ketris 9000

Dell first contends that there is no substantial conflict of evidence that the Ketris 9000 was publicly disclosed, publicly available, and offered for sale before any date of invention.

A patent claim is invalid as anticipated by prior art if the claimed invention was in public use before the date of invention. *Clock Spring, L.P. v. Wrapmaster, Inc.*, 560 F.3d 1317, 1325 (Fed. Cir. 2009) (citations omitted). An invention was in public use if it was accessible to the public or commercially exploited in the United States and ready for patenting at the time of public use. *Invitrogen Corp. v. Biocrest Mfg., L.P.*, 424 F.3d 1374, 1380 (Fed. Cir. 2005). Factors relevant to the public use analysis include the nature of the activities involving the invention; public access to the activities; confidentiality obligations imposed upon observers; commercial exploitation; and the

circumstances surrounding testing and experimentation. *Am. Seating Co. v. USSC Group, Inc.*, 514 F.3d 1262, 1267 (Fed. Cir. 2008) (citing *Invitrogen Corp.*, 424 F.3d at 1380; *Netscape v. Commc'ns Corp. v. Konrad*, 295 F.3d 1315, 1320 (Fed. Cir. 2002)).

In this case, the jury determined that the date of invention of the '021 Patent was November 16, 2000. Dell argues that the Ketris 9000 was publicly used prior to November 16, 2000, in two instances: (1) first at the Networld Interop show ("N+I Show") in Las Vegas from May 9–11, 2000, and (2) later during sales visits in July and August 2000.[12]

At trial, Dell presented to the jury a physical Ketris 9000 as well as the testimony of Dave Bottom and Bryn Forbes, two former Ziatech employees involved in the development and manufacturing of the Ketris 9000 system. Bottom described for the jury how he gave a public demonstration of a Ketris 9000 at the N+I Show in May 2000, and Forbes detailed numerous sales visits that he made to potential

[12] Dell points out that the jury necessarily found that the Ketris 9000 was in public use within the meaning of 35 U.S.C. § 102 because it found claim 20 to be invalid as anticipated by prior art, and Dell's only invalidity defense to claim 20 was anticipation by the Ketris 9000. [740] at 25. However, the jury's findings regarding claim 20 is not relevant to this motion, which involves the validity of only claim 3.

customers in July and August 2000 where he demonstrated a Ketris 9000 system and gave a PowerPoint presentation describing the features and benefits of the system.

Acceleron responds that it presented sufficient evidence that the Ketris 9000 presented at the N+I Show and at Forbes's sales visits did not include each element of claim 3. Thus, any public use would not have invalidated claim 3. The Court agrees and will address this argument in the following subsection.

As for Forbes's sales visits,[13] Acceleron argues that a reasonable jury could conclude that his demonstrations did not constitute public use within the meaning of 35 U.S.C. § 102 because Dell failed to sufficiently corroborate his testimony[14] and because the meetings were subject to nondisclosure agreements.

Forbes's testimony was corroborated by flight records and a photo of him carrying a Ketris 9000 in Orange County. He also testified that

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[13] Acceleron does not challenge the public nature of the N+I Show.

[14] Dell argues that unimpeached and unchallenged testimony should be credited when considering a JMOL motion, *Reeves*, 530 U.S. at 151 (citation omitted), but Acceleron challenged Forbes's recollection and credibility numerous times on cross-examination.

at his sales meetings he would have left a "documentation CD" containing information from the Ketris.com website and sometimes printed data sheets. [765-3] at 93:25 – 94:4; 106:9-10. Dell offered into evidence several Ketris 9000 system manuals as well as a Ketris 9000 data sheet dated August 1, 2000, but not a documentation CD.

Acceleron responds that the photos are undated and the travel statements only support Forbes's claim to have been in certain cities on certain days—they do not establish any public demonstrations or what may have occurred at these demonstrations. Indeed, none of Dell's corroborating documentation establishes actual demonstration of the features of claim 3 of the '021 Patent.

Moreover, Forbes testified that he visited some customers with nondisclosure agreements, and the PowerPoint presentation had a "confidential road map slide" that would be taken out or put in depending on whether there was a nondisclosure agreement in place. *Id.* at 91:21-23; 103:18-23. Importantly, "[a]n invention is in public use if it is shown to or used by an individual other than the inventor under no limitation, restriction, or obligation of confidentiality." *Am. Seating*

Co., 514 F.3d at 1267 (citing *Petrolite Corp. v. Baker Hughes Inc.*, 96 F.3d 1423, 1425 (Fed. Cir. 1996)). Though Forbes recalled two visits where the confidential information was not included in the presentation, he was unable to identify the date of either meeting (other than that one was in June of 2000) or provide corroborating documentation from these meetings.

The Court concludes that there was sufficient evidence for a reasonable jury to find that Dell did not establish by clear and convincing evidence that Forbes's sales visits publicly disclosed the Ketris 9000 so as to invalidate claim 3.

b. Whether Ketris 9000 Includes All Limitations of Claim 3

Dell next argues that all of the elements and limitations of claim 3 are found in the Ketris 9000 system such that it anticipates claim 3.

"A prior art reference anticipates a claim if it discloses 'each and every element of the claimed invention . . . arranged or combined in the same way as in the claim.'" *ModernaTx, Inc. v. Arbutus Biopharma Corp.*, 18 F.4th 1352, 1363 (Fed. Cir. 2021) (quoting *Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1341 (Fed. Cir. 2016)); *see also*

Guangdong Alison Hi-Tech Co. v. Int'l Trade Comm'n, 936 F.3d 1353, 1363 (Fed. Cir. 2019) ("A patent claim is invalid as anticipated only if each and every element of the claim is expressly or inherently disclosed in a single prior art reference." (citing 35 U.S.C. § 102; *SRI Int'l, Inc. v. Internet Sec. Sys., Inc.*, 511 F.3d 1186, 1192 (Fed. Cir. 2008))). Prior art must be evaluated from the perspective of a person of ordinary skill in the field of the invention. *Crown Operations Int'l, Ltd. v. Solutia Inc.*, 289 F.3d 1367, 1375 (Fed. Cir. 2002) (citations omitted).

One element of claim 3 is "caddies providing air flow from the front to the rear of the chassis." [1-1] at 12. Dell argues that based on the evidence in the record, no reasonable jury could conclude that the Ketris 9000 system lacks "caddies" that provide air flow in the front-to-rear direction.

The Court construed "caddy" as a "carrier for a module." [740] at 14; [182] at 34. Dell presented evidence at trial that the Ketris 9000 system includes guide rails in the chassis that support—i.e., carry—the power module. Specifically, Dr. Michalson testified that there are "little shelves" that the power supply "sits on" and that power supply "engages

with" the rails, "slides in, and connects to the backplane." [761-7] at 86:8-16. He went on to explain that in his opinion these "power supply shelves" meet the Court's definition of a caddy. *Id.* at 87:13-16.

However, Dr. Michalson also stated that the "guides are part of the chassis" while "[t]he rails . . . are on the power supply." *Id.* at 86:24-25. Acceleron's technical expert William Putnam—relying on a Ketris manual—similarly testified that the rails are on the power supply itself, which aligns with the guides in the interior of the Ketris 9000. [761-8] at 119:8-17; 119:20 – 120:1; 120:11-14.

Based on this testimonial and documentary evidence, a reasonable jury could find that Dell failed to prove by clear and convincing evidence that the physical features in the chassis of the Ketris 9000 are "carriers of modules" and thus caddies as required by claim 3.

Dell next argues that it presented substantial evidence that the airflow in the Ketris 9000 goes from the front to the rear of the chassis: as shown below, the Ketris 9000 has an intake vent in the front of the chassis and an exhaust vent in the rear.

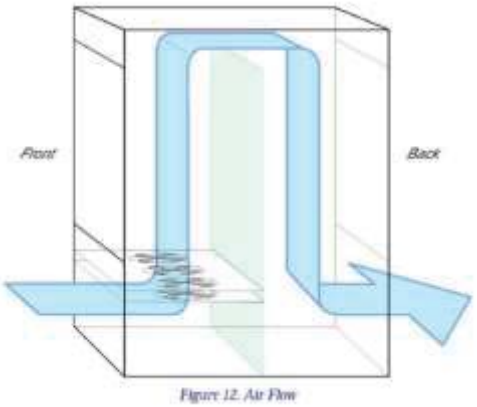


Figure 12. Air Flow

DTX-245 at 23; *see also* [761-7] at 109:7-17 (Dr. Michalson's demonstration showing that air was drawn in at the front of the Ketris 9000 chassis and exited out the rear). Acceleron responds that the claim language explicitly requires that front-to-rear air flow be *provided by caddies*, and Dell failed to prove that the power supply rails (what Dell considers caddies) provide front-to-rear air flow.[15]

Both parties' witnesses testified that the guide rails have holes so that air may flow through them. Forbes explained that the openings in the guide rails "guide the air flow through the power supply," and that power supply vents line up with the guide rail holes to allow the air to flow from the front to the back of the chassis. [765-3] at 79:20-22; 80:1-7.

[15] The Court previously declined to construe caddies to require the "active provision of air flow" (such as by a fan). [482] at 12. In that instance, the Court determined that passively allowing airflow is enough to "provide air flow" under the phrase's plain and ordinary meaning. *Id.*

Putnam agreed that the power supply vents allow air to pass through. However, he testified that based on the location of the power supply units in the chassis, the vents allow the air to flow only vertically in the chassis—from the bottom to the top in the front and from the top to the bottom in the back. The front-to-back air flow occurs at the top of the chassis (where the power supply rails are not located) when the air goes over the midplane and is forced backwards by the roof of the chassis. Bottom also confirmed that after the air goes up the front of the Ketris 9000, the "top of the chassis forces the air to take a turn toward the back." *Id.* at 46:22 – 47:3.

Dr. Michalson opined that the air flow in the Ketris 9000 is turbulent, meaning that the air is "scattered" inside the chassis and may be going in different directions. [761-7] at 90:25 – 91:1; 157:1-4. But he admitted that determining the precise air flow at a particular location in the chassis or across a particular component would require a comprehensive air flow analysis, which he did not perform.

Thus, the Court concludes that even if no reasonable jury could disagree that the Ketris 9000 power supply rails are caddies, Acceleron

presented sufficient evidence for the jury to find that the caddies in the Ketris 9000 do not provide front-to-rear air flow as required by claim 3.

Claim 3 also requires hot-swappable ethernet switch modules. Dell contends that there is no substantial conflict of evidence as to whether the Ketris 9000 included hot-swappable ethernet switches. It argues that it presented substantial evidence that the Ketris ethernet switches were designed to be—and were in fact—hot-swappable.[16]

Acceleron responds that the jury could have properly concluded that the switch blades of the Ketris 9000 systems demonstrated at both the N+I Show and Forbes's sales visits were not hot-swappable due to last minute trace modifications made days before the N+I Show.

At trial, Bottom explained that shortly before the show, he found a problem with the Ketris 9000's circuit board layout—there was a mistake made "reversing some traces." [761-3] at 26:17. The problem was resolved by cutting the traces and putting jumper wires on them. According to Bottom, the jumper wires did not affect the functionality of

[16] As with public use, the jury necessarily found that the Ketris 9000 had a hot-swappable ethernet switch because it found claim 20 to be invalid as anticipated the Ketris 9000 system, and claim 20 requires a hot-swappable ethernet switch. But again, claim 20 is not at issue in this motion.

the Ketris 9000, including its hot-swap capabilities. He testified that he was still able to demonstrate the system and its hot-swap capabilities at the show.

Although Bottom insisted—and Dr. Michalson later reiterated—that the trace fixes were not related to the hot-swap functionality, Putnam testified to the contrary. He explained that power and ground pins are critical to the hot-swapping function, and he opined that a group of pins with reversed polarity would require delicate modifications that "could have made the modified switch module not be hot swappable. Could have caused that not to function." [761-8] at 114:14-23.

He further posited that "it's possible to disable some of the hot-swap circuitry" for the sake of functionality, *id.* at 114:23-25, but that without physical or documentary evidence of the modifications, "there is nothing really to tell us what the modifications were and what approach they took to modifying it to make it functional." *Id.* at 115:17-21. Importantly, he emphasized that without proof of the modifications,

"there is nothing for [him] to examine to determine the nature of the modifications and what effect that they had." *Id.* at 115:21-24.

Putnam's testimony supports Dell's argument that his hypothesis as to the hot-swappable capability of the modified ethernet switches is merely speculative. Without examining the modifications, Putnam was not able to reach a conclusion regarding their effect on the hot-swap capabilities of the ethernet switches. *See also* [761-7] at 80:1-25 (Dr. Michalson opining that Putnam's analysis is "without technical merit").

Similarly, Acceleron can only speculate as to whether the Ketris 9000 system demonstrated by Forbes at his sales visits had the same trace modifications. Bottom testified that only a few Ketris 9000s were made with trace fixes for the N+I Show, and Forbes testified that the Ketris 9000 he "worked on in 2000" had hot-swap components. [765-3] at 85:20 – 86:2. Acceleron has offered no evidence to contradict this testimony.

Thus, the Court does not find a substantial conflict of evidence over whether the Ketris 9000 systems at the N+I Show and at Forbes's sales visits had hot-swappable ethernet switch modules. Nevertheless,

based on the evidence in the record, a reasonable jury could conclude that the Ketris 9000 system does not have caddies providing air flow from the front to the rear of the chassis.

In sum, the Court finds that a reasonable jury would have had a legally sufficient evidentiary basis to find that claim 3 was not anticipated by the Ketris 9000. Thus, Dell's motion for JMOL that claim 3 is invalid due to anticipation will be denied.

C. Acceleron's Motion for Pre- and Post-Judgment Interest

The Court's amended [750] judgment does not provide for the recovery of interest. Accordingly, Acceleron moves the Court to amend its judgment to award pre- and post-judgment interest.

1. Post-judgment Interest

Dell agrees that post-judgment interest is required under 28 U.S.C. § 1961(a), "calculated from the date of the entry of judgment at a rate equal to the weekly average 1-year constant maturity Treasury yield . . . for the calendar week preceding the date of the judgment [and] shall be computed daily to the date of payment . . . and shall be compounded annually." The applicable rate as of the week of September

13, 2021, was 0.07%. Thus, Acceleron's request for post-judgment interest calculated from the date of judgment at a rate of 0.07%, computed daily until payment is made, will be granted.

2. Prejudgment Interest

Acceleron also argues that it is entitled to prejudgment interest at the Georgia state statutory rate (9.75%), *see* O.C.G.A. § 51-12-14(c),—but no less than the prime rate (6.75%)—fixed as of the date of first infringement (September 2005) and compounded quarterly. Prejudgment interest calculated at the Georgia state statutory rate in this manner would result in $7,708,293 in interest. Prejudgment interest calculated at the prime rate in this manner would result in $4,018,718 in interest.

Dell does not dispute the propriety of awarding prejudgment interest but disagrees as to the method of calculating the award. It asserts that the prejudgment interest should be awarded at the Treasury bill rate, variable over time, calculated from November 28, 2012, and compounded annually.

"[P]rejudgment interest should be awarded under § 284 absent some justification for withholding such an award." *Gen. Motors Corp. v. Devex Corp.*, 461 U.S. 648, 657 (1983); *see also Sensonics, Inc. v. Aerosonic Corp.*, 81 F.3d 1566, 1574 (Fed. Cir. 1996) ("[P]rejudgment interest is the rule, not the exception."). The purpose of prejudgment interest is to "afford[] patent owners complete compensation." *Gen. Motors Corp.*, 461 U.S. at 655. In other words, "an award of prejudgment interest is necessary to ensure that the patent owner is placed in as good a position as he would have been in had the infringer entered into a reasonable royalty agreement." *Id.*

"The rate of prejudgment interest and whether it should be compounded or uncompounded are matters left largely to the discretion of the district court." *Bio-Rad Labs., Inc. v. Nicolet Instrument Corp.*, 807 F.2d 964, 969 (Fed. Cir. 1986) (citations omitted) (also noting that the court must be guided by the purpose of prejudgment interest as articulated in *General Motors Corp.*); *Goodwall Constr. Co. v. Beers Constr. Co.*, 824 F. Supp. 1044, 1058 (N.D. Ga. 1992) (citing *Datascope Corp. v. SMEC, Inc.*, 879 F.2d 820, 829 (Fed. Cir. 1989)). "Courts may

use the prime rate, the prime rate plus a percentage, the U.S. Treasury Bill rate, state statutory rate, corporate bond rate, or whatever rate the court deems appropriate." *Apple, Inc. v. Samsung Elecs. Co.*, 67 F. Supp. 3d 1100, 1121 (N.D. Cal. 2014) (citation omitted); *see also Schwendimann v. Arkwright Advanced Coating, Inc.*, 959 F.3d 1065, 1976 (Fed. Cir. 2020) (citations omitted).

Acceleron argues that prejudgment interest awarded at (or above) the prime rate, compounded quarterly, provides adequate compensation for Dell's infringement and for the "forgone use of the money it was entitled to." *Goodwall Constr. Co.*, 824 F. Supp. at 1058 (citing *Bio-Rad Labs., Inc.*, 807 F.2d at 969); *see also Insituform Techs., Inc. v. AMerik Supplies, Inc.*, No. 1:08-cv-333-TCB (N.D. Ga. Feb. 20, 2015), ECF No. 1015 (in a patent case, awarding prejudgment interest calculated at the prime interest rate, compounded quarterly).

Dell responds that the Treasury bill rate compounded annually more adequately compensates Acceleron and cites Federal Circuit precedent affirming similar awards. *See, e.g.*, *Verinata Health, Inc. v. Ariosa Diagnostics, Inc.*, 809 F. App'x 965, 977 (Fed. Cir. 2020)

(affirming the district court's prejudgment interest award at the Treasury bill rate and noting that such awards are "well within the court's discretion" (citing *Laitram v. NEC Corp.*, 115 F.3d 947, 955 (Fed. Cir. 1997))); *Datascope Corp. v. SMEC, Inc.*, 879 F.2d 820, 829 (Fed. Cir. 1989) (affirming a prejudgment interest award at the Treasury bill rate compounded annually).

This Court and others have favored the prime rate when the litigation was "of a protracted and comprehensive nature." *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 939 F.2d 1540, 1545 (Fed. Cir. 1991); *see also Goodwall Constr. Co.*, 824 F. Supp. at 1058. And the Treasury bill rate has been rejected by certain courts as inadequate because its lower rate of return has the potential to create windfall for the infringer. *See, e.g.*, *Pavo Sols. LLC v. Kingston Tech. Co.*, No. 8:14-cv-1352, 2021 WL 1912392, at *2 (C.D. Cal. Mar. 16, 2021) (also considering that no one would make a long-term, voluntary loan to an infringer at the Treasury bill rate (citations omitted)).

On the other hand, Acceleron has not adduced evidence that it borrowed money during the pendency of the case. While a patentee is

not required to demonstrate that it borrowed at the prime rate in order to be entitled to prejudgment interest at that rate, *Uniroyal, Inc.*, 939 F.2d at 1545 (citing *Studeingesellschaft Kohle, m.b.H. v. Dart Industries, Inc.*, 862 F.2d 1564, 1579–80 (Fed Cir. 1988)), such evidence would make an award at a higher rate more appropriate, *Samsung Electronics Co.*, 67 F. Supp. 3d at 1121, and the Court finds it a relevant consideration when determining how to ensure Acceleron is adequately compensated. *See also Goodwall Constr. Co.*, 824 F. Supp. at 1058 (finding the prime plus two percent rate appropriate because it represented the rate the plaintiff would have had to pay to obtain short term coverage loans); *Laitram Corp.*, 115 F.3d at 955 (awarding prejudgment interest at the Treasury bill rate, compounded annually, where there was "no evidence that [the plaintiff] borrowed money at a higher rate, what that rate was, or that there was a causal connection between any borrowing and the loss of the use of the money awarded").

After due consideration, the Court finds that prejudgment interest awarded at a rate that is the average of the prime rate and the Treasury bill rate, compounded annually, adequately compensates

Acceleron. Such a rate accounts for "principles of reasonableness and fairness," and it strikes the appropriate balance between making Acceleron whole without amounting to a windfall. *Werner Enters., Inc. v. Westwind Maritime Int'l, Inc.*, 554 F.3d 1319, 1328–29 (11th Cir. 2009) (citation omitted).

The parties also disagree as to the date from which prejudgment interest should be calculated. Acceleron argues that prejudgment interest on a lump sum royalty award must be applied to the entire amount starting on the first date of Dell's infringement—September 20, 2005 (the date of issuance of the '021 Patent).

Dell responds that prejudgment interest should be calculated from November 28, 2012 (the date of the complaint) because Acceleron withdrew any claim to pre-suit damages and therefore does not need to be compensated for a pre-suit delay in receiving damages.

Generally, an award of prejudgment interest should cover "the time period from the beginning of the infringement to the date of the judgment." *Goodwall Constr. Co.*, 824 F. Supp. at 1058 (citations omitted); *see also Gen. Motors Corp.*, 461 U.S. at 655–56. "Where a jury

awards a lump-sum amount as compensation for infringement, the prejudgment interest is properly applied to the entire amount beginning on the first date of the infringement." *Schwendimann*, 959 F.3d at 1076 (citing *Comcast IP Holdings I LLC v. Sprint Commc'ns Co.*, 850 F.3d 1302, 1315 (Fed. Cir. 2017)).

However, "any prejudgment interest award is applied only to the actual damages award." *Goodwall Constr. Co.*, 824 F. Supp. at 1058 (citing *Beatrice Foods v. New England Printing*, 923 F.2d 1576, 1580 (Fed. Cir. 1991)) (as opposed to punitive or enhanced damages); *Gyromat Corp. v. Champion Spark Plug Co.*, 735 F.2d 549, 556 (Fed. Cir. 1984).

Here, the lump sum royalty of $2.1 million awarded by the jury is the royalty that would have resulted from the hypothetical license negotiation on September 20, 2005. But as discussed, Acceleron made the strategic decision to waive pre-suit damages. Exercising its considerable discretion, the Court does not find it appropriate to award interest for a period of time during which Acceleron relinquished any royalty.

The Court also agrees with Dell that starting prejudgment interest in 2012 more closely accounts for the jury's award. Dell's damages expert, Jeff Andrien, testified that a lump sum award of $2.1 million would be a reasonable royalty based on the HP Agreement, which occurred in 2011. He then translated that amount into 2005 dollars by applying a discount for the time value of money, bringing his final reasonable royalty calculation to $1.71 million.[17] But the jury awarded Acceleron the full $2.1 million. Having observed the entire trial and considered all testimony, it is credible to deduce that the jury declined to apply Andrien's discount back to 2005. Thus, the jury's award aligns with a later accrual date for prejudgment interest.

The Court further reaches this decision in consideration of Acceleron's long delay in bringing suit.

In certain cases, "it may be appropriate to limit prejudgment interest, or perhaps even deny it altogether, where the patent owner has been responsible for undue delay in prosecuting the lawsuit." *Gen.*

[17] Andrien's testimony that the lump sum royalty would have been paid in 2005 was offered before Acceleron dropped its claim for pre-suit damages.

Motors Corp., 461 U.S. at 657. "[T]he withholding of prejudgment interest based on delay is the exception, not the rule." *Lummus Indus., Inc. v. D.M. & E. Corp.*, 862 F.2d 267, 275 (Fed. Cir. 1988). And absent prejudice to the defendant, a delay does not support the denial of prejudgment interest. *Crystal Semiconductor Corp.*, 246 F.3d at 1361–62 (quoting *Lummus*, 862 F.2d at 275).

Dell does not seek a denial of prejudgment interest altogether; instead, it asks the Court to limit prejudgment interest based on Acceleron's substantial and unexplained five-year delay in bringing suit. Considering all the circumstances in this case, the Court agrees that it would be unjust for Dell to pay interest against this five-year period of undue delay.

Finally, the parties disagree as to whether the rate should be fixed or variable. Acceleron argues that because the jury awarded a lump sum royalty and not a running royalty, a fixed rate is appropriate in this case, while Dell argues that the usual practice is for the prejudgment interest rate to vary over time to match real-world rates. The Court agrees with Dell. Acceleron would not have obtained interest

payments at a fixed rate over time. Accordingly, the prejudgment interest rate in this case shall be variable.

D. Dell's Motion to Deny or Reduce Bill of Costs

Rule 54(d) of the Federal Rules of Civil Procedure provides that "[u]nless a federal statute, these rules, or a court order provides otherwise, costs—other than attorney's fees—should be allowed to the prevailing party." The Eleventh Circuit has recognized that although Rule 54(d) expresses a presumption in favor of awarding costs to the prevailing party, the language of the rule does not prevent a court from denying costs to a prevailing party. *See Gilchrist v. Bolger*, 733 F.2d 1551, 1556–57 (11th Cir. 1984) (quoting *Walters v. Roadway Express, Inc.*, 557 F.2d 521, 526 (5th Cir. 1977)).

Because the Eleventh Circuit views the denial of costs as a penalty assessed against the prevailing party, it is incumbent upon the losing party to overcome the presumption that costs should be awarded to the prevailing party. *See id.* Further, "in the event a court chooses to deny costs, it must articulate a sound basis for doing so." *United States ex rel. Saldivar v. Fresenius Med. Care Holdings, Inc.*, 291 F. Supp. 3d

1345, 1349 (N.D. Ga. 2017) (citing *Chapman v. Al Transp.*, 229 F.3d 1012, 1039 (11th Cir. 2000)).

Acceleron timely filed its bill of costs requesting costs in the amount of $402,925.27. Dell moves the Court to deny the request as excessive and order each party to bear its own costs. In the alternative, it challenges $366,165.35 of the specific costs Acceleron seeks as either not allowed under 28 U.S.C. § 1920 or insufficiently documented.

1. Denial of Costs

Courts consider a variety of factors in determining whether awarding costs is appropriate. These include (1) the closeness and difficulty of the case; (2) any misconduct by the prevailing party; (3) good faith by the losing party; (4) limited financial resources of the losing party; (5) whether an award of costs could have a chilling effect on future plaintiffs bringing claims; and (6) the public importance of the case. *United States ex rel. Saldivar*, 291 F. Supp. 3d at 1349 (citations omitted). Of these factors, Dell argues that the closeness and difficulty of the case and its good faith litigation support the denial of costs.

Some courts have also considered the partial nature of the prevailing party's recovery as an appropriate reason for denying costs. *See, e.g.*, *Open Text S.A. v. Box, Inc.*, No. 13-cv-04910-JD, 2015 WL 4940798, at *10 (N.D. Cal. Aug. 19, 2015) (quoting *Champion Produce, Inc. v. Ruby Robinson Co.*, 342 F.3d 1016, 1023 (9th Cir. 2003)); *Richmond v. Southwire Co.*, 980 F.2d 518, 520–21 (8th Cir. 1992) (citations omitted). Dell cites these cases to argue that denial of costs is also appropriate here because Acceleron's recovery was a fraction of what it sought.

The Court agrees that this case was close and difficult. Acceleron initially alleged that Dell infringed twenty-six claims of the '021 Patent. Dell challenged all twenty-six claims by initiating inter partes review ("IPR") proceedings before the Patent Trial and Appeal Board ("PTAB"). Ultimately, the PTAB and the Federal Circuit found claims 1–2, 4, 6–13, 18–19, and 30 to be unpatentable, but they affirmed the validity of claims 3, 14–17, 20, and 34–36. *Dell Inc. v. Acceleron, LLC*, No. IPR2013-0040, 2014 WL 7326580 (P.T.A.B. Dec. 22, 2014), *vacated in part by* 818 F.3d 1293 (Fed. Cir. 2016); *Dell Inc. v. Acceleron, LLC*, No.

IPR2013-00440, 2016 WL 8944607 (P.T.A.B. Aug. 22, 2016), *aff'd*, 884 F.3d 1364 (Fed. Cir. 2018).

Both parties subsequently prevailed on claim construction arguments. This Court granted Dell's motions for partial summary judgment of invalidity on claim 17 and of non-infringement on claims 20 and 22. However, it denied Dell's motion for partial summary judgment of non-infringement on claims 14–17 and 24, and it granted in part Acceleron's motion for partial summary judgment of infringement on claims 3 and 24.

At trial, Dell prevailed on its motion for judgment as a matter of law of no willful infringement, and the jury found no infringement of claim 24 and found claims 20 and 24 to be invalid. But importantly, the jury unanimously found claim 3 to be valid and found that all of Dell's accused products infringe claim 3. Though it sided with Dell's damages expert regarding the form of damages, it awarded Acceleron a multi-million-dollar verdict.

In support of its argument that the closeness and difficulty of this case supports the denial of costs, Dell cites *U.S. Plywood Corp. v.*

General Plywood Corp., 370 F.2d 500, 508 (6th Cir. 1966). There, the court held that the district judge did not abuse his discretion by requiring each party to bear its own costs because "[a]t best this can only be described as a close and difficult case." *Id.* However, *U.S. Plywood* is not persuasive because, as Acceleron points out, the asserted patent in that case was found valid *but not infringed* after a forty-day trial. *Cf. Bio-Tech. Gen. Corp. v. Genentech, Inc.*, 80 F.3d 1553, 1562 n.8 (Fed. Cir. 1996) ("Infringement of one valid and enforceable patent claim is all that is required for liability to arise." (citation omitted)).

The Court also agrees that Dell litigated this case in good faith. Indeed, the Court has, on the record, commended the excellent work and professionalism displayed by the lawyers on both sides. That said, the Court finds that Dell's good faith litigation is counterbalanced by the lack of any misconduct by Acceleron.

Finally, Dell argues that denial of costs is appropriate because Acceleron received only partial relief. Acceleron's initial damages report asked for $79.3 million in damages, and at trial, Acceleron ultimately sought close to $41 million in damages. However, the jury awarded $2.1

million as a reasonable royalty—a small percentage of what Acceleron requested.

The Court disagrees with Dell's characterization of Acceleron's relief as "partial." Although Acceleron did not receive the full amount of damages it sought, the jury unanimously found that Dell's accused products infringe claim 3 and compensated Acceleron accordingly.

In sum, the Court does not find that the closeness and difficulty of the case, Dell's good faith litigation, and/or Acceleron's damages award overcome the "strong presumption" that Acceleron—as the prevailing party—is entitled to costs. *Yellow Pages Photos, Inc. v. Ziplocal, LP*, 846 F.3d 1159, 1166 (11th Cir. 2017) (quoting *Mathews v. Crosby*, 480 F.3d 1265, 1276 (11th Cir. 2007)).

2. Reduction of Costs

The Court next turns to Dell's request to reduce Acceleron's costs. 28 U.S.C. § 1920 permits the taxation of the following as costs:

> (1) Fees of the clerk and marshal;
>
> (2) Fees for printed or electronically recorded transcripts necessarily obtained for use in the case;
>
> (3) Fees and disbursements for printing and witnesses;

> (4) Fees for exemplification and the costs of making copies of any materials where the copies are necessarily obtained for use in the case;
>
> (5) Docket fees under section 1923 of this title;
>
> (6) Compensation of court appointed experts, compensation of interpreters, and salaries, fees, expenses, and costs of special interpretation services under section 1828 of this title.

The Supreme Court has limited the taxation of costs to only those set forth in 28 U.S.C. §§ 1821[18] and 1920. *Crawford Fitting Co. v. J.T. Gibbons, Inc.*, 482 U.S. 437, 445 (1987); *see also United States ex rel. Saldivar*, 291 F. Supp. 3d at 1349 ("[A] court may not award costs in excess of those permitted by § 1920." (citing *Crawford Fitting Co.*, 482 U.S. at 442)).

Dell argues that Acceleron has requested costs that are either not taxable under § 1920 or not supported by sufficient detail to determine whether they are covered by the statute. The Court will examine these costs in turn.

[18] 28 U.S.C. § 1821 defines the witness fee specified in § 1920(3).

a. Special Master

Dell challenges the taxability of $221,788.80 for special master fees. It argues that special master fees are not permitted under §§ 1821 or 1920, and thus under *Crawford*, such costs are not taxable.

In *Perez v. Carey Int'l, Inc.*, 373 F. App'x 907, 914 (11th Cir. 2010) (per curiam), the Eleventh Circuit found it was not an abuse of discretion for the district court to split the cost of the special master's services between the parties. However, the plaintiff in that case relied on *Carpa, Inc. v. Ward Foods, Inc.*, 567 F.2d 1316, 1323–24 (5th Cir. 1978), *overruled on other grounds by Copper Liquor, Inc. v. Adolph Coors Co.*, 701 F.2d 542 (5th Cir. 1983), to argue that special master costs are to be paid to the prevailing party even if the parties agreed to each pay half of the costs. And the Eleventh Circuit noted that *Carpa* "probably did not survive" *Crawford*'s mandate that the taxation of costs is limited to those set forth in §§ 1821 and 1920, neither of which permits the taxation of the special master fees as costs. *Perez*, 373 F. App'x at 914.

This Court and at least one other district court in this circuit have interpreted *Perez* to hold "that special master fees are not taxable as costs under § 1920." *In re Delta/AirTran Baggage Fee Antitrust Litig.*, No. 1:09-md-2089-TCB, 2019 WL 13043040, at *5 (N.D. Ga. July 30, 2019) (citing *Perez*, 373 F. App'x at 914); *see also Suchite v. Kleppin*, No. 10-21166-CIV, 2012 WL 1933555, at *5 (S.D. Fla. Mar. 23, 2012) (finding that the special master fees are not taxable as costs because "such fees are not specifically listed [i]n § 1920 as taxable" (citing *Perez*, 373 F. App'x at 914)).

Acceleron has not cited any post-*Perez* case in this circuit holding that costs for a special master are recoverable under Rule 54(d). It does rely on several post-*Crawford* cases from other circuits that are distinguishable. Most of the cases discuss the allocation of special master fees under Rule 53 as opposed to Rule 54. *Aird v. Ford Motor Co.*, 86 F.3d 216, 221 (D.C. Cir. 1996); *Doré Energy Corp. v. Prospective Inv. & Trading Co.*, 270 F.R.D. 262, 268 (W.D. La. 2010) (noting that Rule 54(d) did not apply to the case); *Chevron Corp. v. Donziger*, 990 F.3d 191, 205 (2d Cir. 2021); *Saum v. Widnall*, 959 F. Supp. 1310, 1312

(D. Co. 1997). Here, this Court properly allocated payment under Rule 53, ordering that unless the parties agree otherwise, each would be responsible for half of the special master's fees and expenses.

Several of Acceleron's cases rely on a pre-*Crawford* case or treatise to conclude that the compensation of special master is taxable as an item of costs without any discussion of the effect of *Crawford*, and several find it relevant that special master fees are allowed as costs under some courts' local rules, which is not the case under this Court's local rules.

Guided by *Perez* and *Crawford*, the Court concludes that Acceleron's special master fees are not taxable as costs. *See also Akanthos Cap. Mgmt., LLC v. CompuCredit Holdings Corp.*, 2 F. Supp. 3d 1306, 1311 (N.D. Ga. 2014) (reading *Crawford* and its progeny as an instruction to be "wary of awarding costs that may arguably go beyond the scope of § 1920"). Thus, $221,788.80 will be deducted from Acceleron's bill of costs.

b. E-discovery

Dell next challenges Acceleron's request for $12,644.78 in costs related to e-discovery because Acceleron categorized these costs as "other costs" rather than as one of the six allowable categories under § 1920.

Acceleron's e-discovery costs are limited to those for scanning, loading fees, PDF conversion, and TIFF conversion. The Eleventh Circuit has not directly ruled on what e-discovery related copying costs are recoverable under § 1920. However, the Federal Circuit—applying Eleventh Circuit case law—and a number of district courts in this circuit have concluded that e-discovery costs are generally recoverable under § 1920(4) where the production of e-discovery is akin to creating electronic copies. *See, e.g.*, *United States ex rel. Saldivar*, 291 F. Supp. 3d at 1352 (citing *CBT Flint Partners, LLC v. Return Path, Inc.*, 737 F.3d 1320, 1331–32 (Fed. Cir. 2013)); *Akanthos Cap. Mgmt., LLC*, 2 F. Supp. 3d at 1316 (assuming that the costs of digitizing documents and converting digital files from a native format to TIFF for final production

would be taxable); *In re Delta*, 2019 WL 13043040, at *3 (citations omitted).

Thus, the Court determines that the full amount of Acceleron's e-discovery costs are taxable.

c. Depositions & Transcripts

Acceleron initially sought $128,228.92 for fees for printed or electronically recorded transcripts. Dell challenges $74,894.17 of these costs associated with non-itemized invoices for deposition transcripts and corresponding video services. It contends that these costs should be denied in full because they do not provide enough detail to allow Dell or the Court to determine whether they include non-taxable costs.

Dell also challenges $24,789.85 of itemized costs—interactive real-time hook-up fees, rough draft fees, fees for scanning and downloading exhibits, processing fees, condensed transcript fees, demo cam fees, and data transfer fees—as costs that are not taxable under the statute because they were merely for the convenience of counsel. In response, Acceleron withdraws $19,872.50 of itemized costs: $13,546.05 in real-time service fees, $1,050 in condensed transcript fees, and $5,276.45 for

certain deposition rough draft transcripts. It contends that the remaining costs are reasonably necessary costs associated with the depositions and are recoverable.

Recovery of "[f]ees for printed or electronically recorded transcripts necessarily obtained for use in the case" is permissible. 28 U.S.C. § 1920(2). For deposition expenses to be recoverable, they need not be used at trial "but must appear reasonably necessary at the time the deposition was taken." *DiCecco v. Dillard House, Inc.*, 149 F.R.D. 239, 241 (N.D. Ga. 1993) (citing *George R. Hall, Inc. v. Superior Trucking*, 532 F. Supp. 985, 995 (N.D. Ga. 1982)). "However, where the deposition costs were merely incurred for convenience, to aid in a more thorough preparation of the case, or for purpose of investigation only, the costs are not recoverable." *Id.* (citations omitted).

Dell objects to certain invoices as not recoverable because they are not itemized and fail to indicate which costs are taxable. Acceleron responds by attaching properly itemized invoices of these depositions, which Dell argues should not be permitted. The Court accepts Acceleron's supplemental invoices and declines to deny these costs

purely on the basis that that they are not sufficiently itemized. *See, e.g.*, *Barker v. Emory Univ.*, No. 1:02-cv-2450-CC, 2009 WL 10695875, at *5 (N.D. Ga. Sept. 2, 2009) (accepting an affidavit setting forth specific information regarding costs itemized in the bill of costs, after objections to the bill of costs were filed); *Simmons v. City of Orlando*, No. 6:16-cv-1909-Orl-41KRS, 2018 WL 4938627, at *1 (M.D. Fla. Sept. 26) (ordering—and subsequently considering—a supplement to the proposed bill of costs where the bill of costs failed to properly document and itemize the costs sought), *report and recommendation adopted*, 2018 WL 5079877 (M.D. Fla. Oct. 18, 2018).[19]

The Court next turns to the disputed costs associated with the deposition transcripts.

Where a party properly notices a videotaped deposition and no objection was made, it is appropriate to award costs for videotaping and transcribing the deposition. *Morrison v. Reichhold Chems., Inc.*, 97 F.3d

[19] This case is distinguishable from *Johnson v. Mortham*, 173 F.R.D. 313, 317 (N.D. Fla. 1997), upon which Dell relies, where the bulk of the requested costs were entirely unsubstantiated and the clerk's office twice contacted the plaintiff's counsel requesting the requisite documentation, to no avail. Unlike *Johnson*, Acceleron's supplemental invoices are not "tantamount to filing either an untimely second bill of costs or a motion for retaxation of costs." *Johnson*, 173 F.R.D. at 317.

460, 464–65 (11th Cir. 1996) (per curiam). Dell did not object to the video recording of witness depositions, and the Court agrees with Acceleron that the line item for video services is sufficient to indicate that the invoices are for the contemporaneous video recordings of the depositions. Moreover, the Court agrees that these costs were necessarily obtained for use in this case. Thus, they are taxable.

Relatedly, the Court finds that Acceleron's costs associated with data transfer fees are recoverable. Data transfer fees are a mandatory charge of the litigation support service providers and are associated with the video recording of depositions. Indeed, the itemized invoices denote these costs as "Labor." *See, e.g.*, [762-3] at 88. The Court agrees that these costs were reasonably necessary for the depositions. *See, e.g.*, *Affinity Roofing, LLC v. State Farm Fire & Cas. Co.*, No. 1:18-cv-4329-TCB, 2020 WL 4939169, at *2 (N.D. Ga. July 6, 2020) (finding fees for a court reporter's appearance recoverable because the court report's appearance is necessary for the deposition (citations omitted)).

Dell challenges Acceleron's request for $1,002 for the use of a demo cam during Bryn Forbes's video-recorded depositions. This charge

is for the addition of a close-up video recording of the Ketris 9000 system, which Acceleron argues was a critical part of its validity case. The Court agrees that this video recording was reasonably necessary to Acceleron's case and will award it these costs.

Dell objects to Acceleron's request for fees for scanning and downloading deposition exhibits. Acceleron argues that copies of deposition exhibits were necessary for understanding and preserving the witness testimony. The Court agrees that in this document-intensive case, costs associated with deposition exhibits were reasonably necessary for litigation and are recoverable. *See, e.g.*, *Tampa Bay Water v. HDR Eng'g, Inc.*, No. 8:08-CV-2446-T-27TBM, 2012 WL 5387830, at *19 (M.D. Fla. Nov. 2, 2012) (citing § 1920(4)); *Core Constr. Servs. Se., Inc. v. Crum & Forster Specialty Ins. Co.*, No. 6:14-cv-1790-Orl-31KRS, 2016 1554349, at *2 (M.D. Fla. Mar. 21, 2016); *Pettaway v. Equifax Info. Sols., LLC*, No. 1:19-cv-3689-MHC-CCB, 2020 WL 10229091, at *2 (N.D. Ga. Oct. 27, 2020) (finding costs for copying exhibits attached to deposition transcripts were recoverable transcript fees and collecting cases).

Dell next challenges Acceleron's request for rough transcript fees. Acceleron withdraws its request for $5,276.45 in costs associated with certain rough draft transcripts[20] but contends that the remaining rough transcripts were reasonably necessary for its prosecution of its case.

Specifically, Acceleron's counsel affirms that the rough transcripts for the depositions of Dube, Michalson, and Casey in 2017 were necessary for the deadlines for claim construction briefs on October 25, 2017, and for the responsive briefs thereafter. The rough transcripts for the depositions of Rayburn, Chandrasekhar, Rousset, Pellegrino, and Kleiman in 2018 were necessary for Acceleron's July 2018 motion to amend its complaint to include indirect infringement. The rough transcripts for the depositions taken in the weeks leading up to the close of fact discovery on February 28, 2019—Nguyen, Condon, Kleiman, Brown, Dube, Fenner, Fenton, Pellegrino, and Schoenthaler—were necessary for Acceleron to determine whether additional discovery might be needed. Finally, the rough transcripts for the depositions of

[20] Though Acceleron does not identify the specific transcript costs being withdrawn, the Court deduces these withdrawn rough transcripts to be those for the depositions of Andrien, Freet, Derrico, Ramey, Watt, Wharton, and Pattillo.

Rousset, Bottom, Forbes, Milani, Michalson, and Putnam in 2019 were necessary in anticipation of the deadline for expert disclosures on May 1, 2019, and the rebuttal disclosures shortly thereafter.

Expenses for copies of depositions taken by the prevailing party are generally not recoverable. *Goodwall Constr. Co.*, 824 F. Supp. at 1066 (citing *Fulton Fed. Sav. & Loan Ass'n of Atlanta v. Am. Ins. Co.*, 143 F.R.D. 292, 296 (N.D. Ga. 1991)). However, the Eleventh Circuit has upheld copies of deposition transcripts as taxable, *Watson v. Lake County*, 492 F. App'x 991, 997 (11th Cir. 2012) (citing *United States v. Kolesar*, 313 F.2d 835, 840 (5th Cir. 1963), and courts in this circuit have permitted the recovery of increased rates per page for expedited transcripts when reasonably necessary, *see Barrera v. Weiss & Woolrich S.*, 900 F. Supp. 2d 1328, 1335 (S.D. Fla. 2012). But, in *Barrera*, the case upon which Acceleron exclusively relies, the court determined that in instances where the prevailing party obtained both the original transcript and an additional copy (such as an ASC II disc), only the costs of a single copy of the deposition transcript were recoverable.

Accordingly, the Court will permit Acceleron to recover for only a single copy of each deposition. Thus, in addition to the $5,276.45 of withdrawn rough transcript fees, the Court will deduct from the bill of costs $7,855.30—the rough transcript fees associated with the above-listed depositions.

Dell also objects to $165 in costs associated with processing fees. [762-3] at 40–42. Acceleron offers no response. Accordingly, the Court will deduct $165 from Acceleron's bill of costs.

Lastly, Dell challenges Acceleron's requests for condensed transcript fees and fees for real-time services. Acceleron has withdrawn these requests in full: $1,050 for condensed transcripts and $13,546.05 for real-time services. By the Court's calculations, this accounts for the fees associated with both the initial and supplemental invoices. Thus, Dell's objection that the supplemental invoices do not indicate the withdrawn costs is overruled, and the Court with deduct $14,596.05 from Acceleron's bill of costs.

d. Copies

Acceleron requested $24,813.84 in costs associated with making copies. Dell argues that all of the requested costs in this category should be denied, or at the very least the Court should deduct costs for technical time, redwelds, file folders, joint exhibits, and color copies. In response, Acceleron withdraws $765 in technical time and contends that the remaining costs are recoverable.

Costs "for exemplification and the costs of making copies" are taxable for copies "necessarily obtained for use in the case." 28 U.S.C. § 1920(4). Copies made solely for the convenience of counsel are not taxable. *In re Delta*, 2019 WL 13043040, at *5 (citing *Fressell v. AT&T Techs., Inc.*, 103 F.R.D. 111, 115–16 (N.D. Ga. 1984)). The party seeking reimbursement for photocopies bears the burden of demonstrating that the copies were reasonably necessary. *Daugherty v. Westminster Schs., Inc.*, 174 F.R.D. 118, 124 (N.D. Ga. 1997).

Dell argues that Acceleron's copying costs are not taxable under § 1920 because Acceleron has not explained why all of the requested copies and related costs were necessary for the case. The Court

disagrees. Acceleron has provided sufficient information regarding the copies for the Court to determine that they were for the production of trial exhibits. Thus, Acceleron has met its burden.

Dell next challenges specific costs for redwelds, file folders, and technical time as made for the convenience of counsel. The Court finds these costs reasonably necessary and therefore taxable. *In re Delta*, 2019 WL 13043040, at *5 (finding costs for various tabs, binders, and labor taxable); *see also Parallel Networks Licensing, LLC v. Microsoft Corp.*, 839 F. App'x 513, 515 (Fed. Cir. 2021) ("Trial exhibit copies and their associated folders and labels are taxable costs." (citations omitted)).

Dell also challenges Acceleron's costs for joint exhibits and for color copies. Copying costs may be recovered even if the underlying document was not admitted at trial. *U.S. E.E.O.C. v. W&O, Inc.*, 213 F.3d 600, 623 (11th Cir. 2000) (citations omitted). The record indicates that as of the date of the copying invoice, Acceleron reasonably believed the parties would stipulate to a joint exhibit list and thus that copies of

the joint exhibits were reasonably necessary. Thus, the Court finds these costs taxable.

However, the Court finds that Acceleron has not met its burden in showing that its color copies were necessarily obtained for use in this case. *Corsair Asset Mgmt. v. Moskovitz*, 142 F.R.D. 347, 352 (N.D. Ga. 1992). This Court has previously found costs for color copies reasonable where the prevailing party "only used color copies when necessary to retain the meaning of the text involved, such as in maps, charts, graphs, documents with tracked changes or color coding, and various spreadsheets." *In re Delta*, 2019 WL 13043040, at *5. Here, Acceleron justifies its color copies by simply asserting that "[m]any of these documents were diagrams and manuals requiring color reproduction." [780] at 26. But it requests costs for 45,885 pages in color copies; it has not shown that it limited its request to only those color copies reasonably necessary.

Thus, Acceleron's request for $17,895.15 in costs for color copying will be deducted from its bill of costs.

e. Process Servers

Acceleron initially requested $781.50 in process-server fees. Dell moves the Court to reduce these costs to $520, arguing that eight private process server fees exceed the statutory amount (in part because they include rush fees). But Acceleron has since withdrawn $274.50 in rush subpoena service fees, resulting in $507 in process server fees. Accordingly, the Court will reduce these costs to $507.

f. Mediation

Acceleron's original bill of costs includes a request for $6,351 for fees associated with mediation with Karl Bayer, which Dell challenges. In response, Acceleron withdraws its request for "the $4,551.00 in fees incurred in engaging Karl Bayer as the mediator." [780] at 16. After reviewing Bayer's invoices, it is not clear to the Court whether Acceleron incurred $4,551 or $6,351 in mediation fees. Regardless, mediation fees are not taxable under § 1920, *see Gary Brown & Associates, Inc. v. Ashdon, Inc.*, 268 F. App'x 837, 846 (11th Cir. 2008) (per curiam), and all $6,351 of the initially-taxed costs will be deducted from the bill of costs.

In sum, Acceleron's bill of costs will be reduced by $274,967.25: $221,788.80 in special master fees, $27,892.80 in fees associated with deposition transcripts, $18,660.15 in copying fees, $274.50 in service fees, and $6,351 in mediation fees.

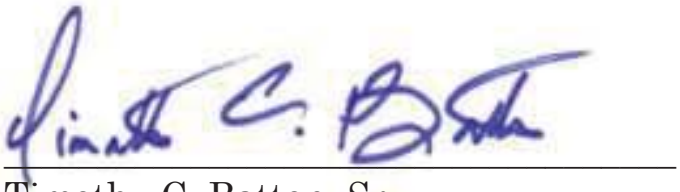
III. Conclusion

For the foregoing reasons, Acceleron's motion [760] for a new trial and Dell's motion [759] for judgment as a matter of law are denied.

Acceleron's motion [756] to alter or amend the judgment to include pre- and post-judgment interest is granted in part. The parties are ordered to file a joint computation of interest by March 18, 2022. Post-judgment interest shall be calculated pursuant to 28 U.S.C. § 1961 at the rate specified therein. Prejudgment interest shall be calculated based on the average of the prime rate and Treasury bill rate, variable over time, compounded annually, from November 28, 2012, to September 23, 2021.

Dell's motion [775] to deny or reduce Acceleron's bill of costs is granted in part. Acceleron's bill of costs is reduced as discussed, and costs are awarded in the amount of $127,958.02.

IT IS SO ORDERED this 7th day of March, 2022.



Timothy C. Batten, Sr.
Chief United States District Judge

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF GEORGIA
ATLANTA DIVISION

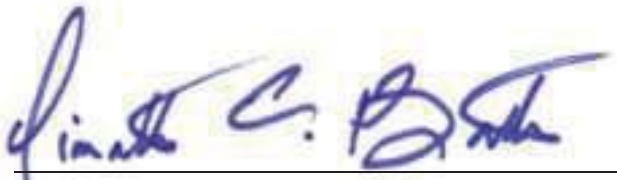
ACCELERON, LLC, Plaintiff, v. DELL INC., Defendant.	CIVIL ACTION FILE NO. 1:12-cv-4123-TCB

SECOND AMENDED JUDGMENT

This action having come before a jury for trial upon the merits and the jury having rendered its verdict on September 22, 2021, it is ORDERED AND ADJUDGED that judgment be and hereby is entered in favor of Plaintiff Acceleron, LLC, and against Defendant Dell Inc. for infringement of Claim 3 of U.S. Patent No. 6,948,021 in the amount of $2,100,000 in damages and $472,045.20 in prejudgment interest, plus costs and post-judgment interest in the amount $5.18, accruing on a daily basis from September 24, 2021 to the date of payment.

It is further ORDERED AND ADJUDGED that judgment be and hereby is entered in favor of Defendant Dell Inc., and against Plaintiff Acceleron, LLC for non-infringement of Claim 24 and invalidity of Claims 20 and 24 of U.S. Patent No. 6,948,021.

SO ORDERED this 21st day of March, 2022.



Timothy C. Batten, Sr.
Chief United States District Judge

US006948021B2

(12) **United States Patent**
Derrico et al.

(10) **Patent No.: US 6,948,021 B2**
(45) **Date of Patent: Sep. 20, 2005**

(54) **CLUSTER COMPONENT NETWORK APPLIANCE SYSTEM AND METHOD FOR ENHANCING FAULT TOLERANCE AND HOT-SWAPPING**

(75) Inventors: **Joel Brian Derrico**, Atlanta, GA (US); **Paul Jonathan Freet**, Duluth, GA (US)

(73) Assignee: **Racemi Systems**, Duluth, GA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 324 days.

(21) Appl. No.: **09/987,917**

(22) Filed: **Nov. 16, 2001**

(65) **Prior Publication Data**

US 2002/0078290 A1 Jun. 20, 2002

Related U.S. Application Data

(60) Provisional application No. 60/248,834, filed on Nov. 16, 2000.

(51) **Int. Cl.**[7] **G06F 13/00**
(52) **U.S. Cl.** **710/302**; 710/301
(58) **Field of Search** 710/301, 302, 710/72, 304, 100; 713/100; 709/222, 227, 219, 203, 223; 361/695, 720, 752, 683, 687; 363/123; 439/92; 307/46, 66; 370/910

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"Redundant arrays of IDE drives" by Sanders, D.A.; Cremaldi, L.A.; Eschenburg, V>; Lawrence, C.N.; Riley, C.; Summers, D.J Petravick, D..L. (abstract only).*

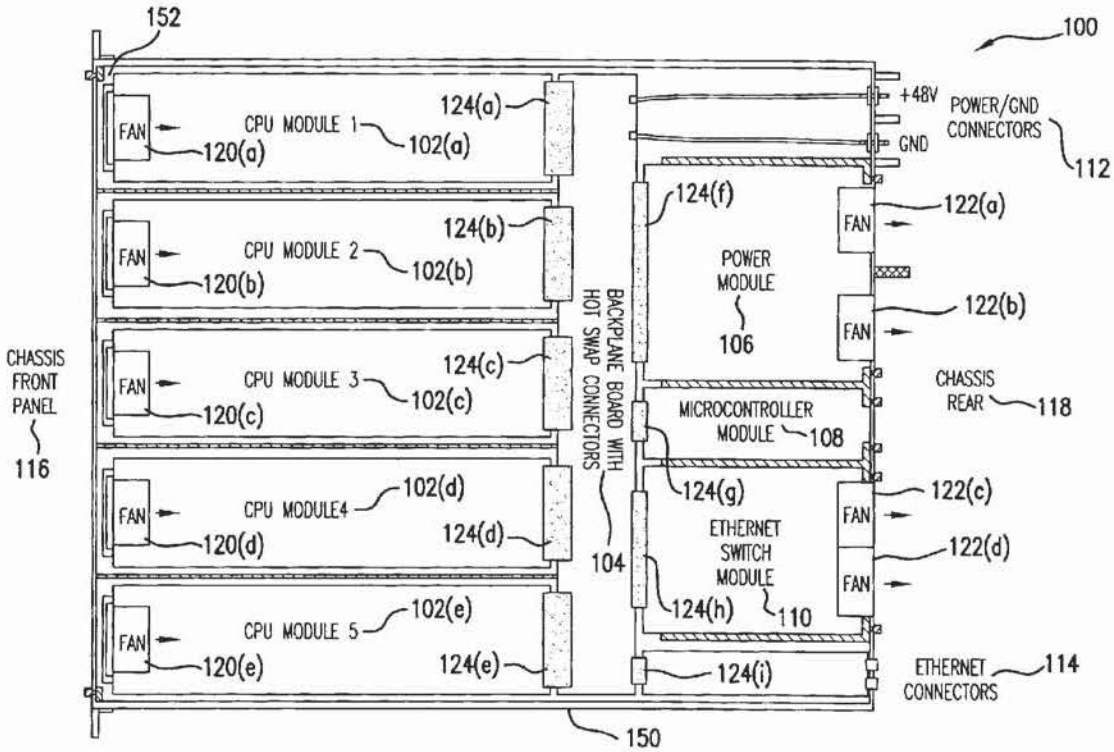
* cited by examiner

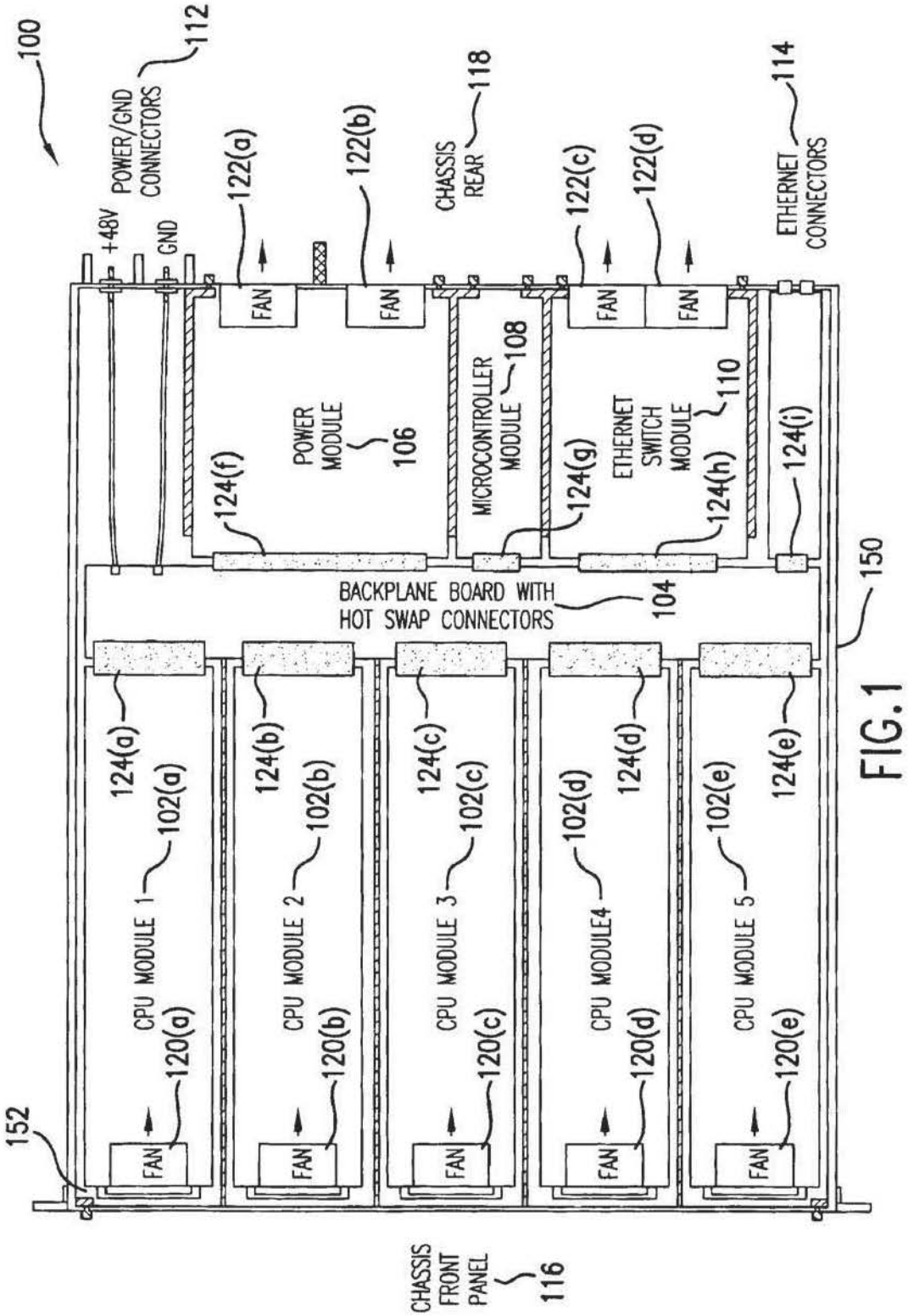
Primary Examiner—Gopal C. Ray
(74) *Attorney, Agent, or Firm*—DLA Piper Rudnick Gray Cary US LLP

(57) **ABSTRACT**

Packaging a hot-swappable server module (server blade) in a computer network appliance with shared, hot-swappable power, network, and management modules to provide highly available computer capacity. Distributing power between hot-swappable modules using single DC input voltage.

36 Claims, 5 Drawing Sheets

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112
+48V
GND
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122(b)
CHASSIS REAR
118
122(c)
122(d)
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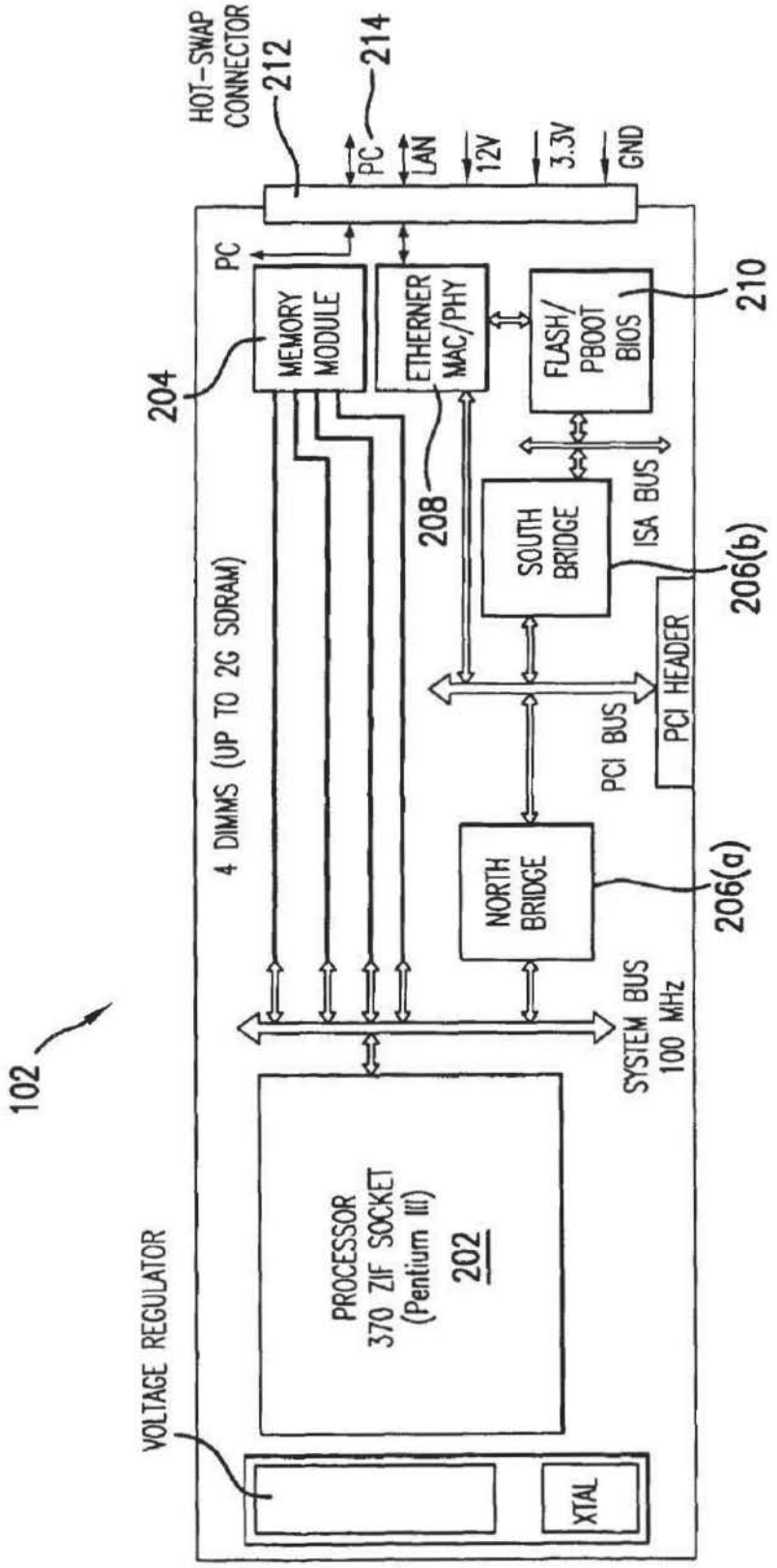
114
FAN
POWER MODULE
106
MICROCONTROLLER MODULE
108
ETHERNET SWITCH MODULE
110
124(f)
124(g)
124(h)
124(i)
BACKPLANE BOARD WITH HOT SWAP CONNECTORS
104
150
124(a)
124(b)
124(c)
124(d)
124(e)
CPU MODULE 1
102(a)
120(a)
CPU MODULE 2
102(b)
120(b)
CPU MODULE 3
102(c)
120(c)
CPU MODULE4
102(d)
120(d)
CPU MODULE 5
102(e)
120(e)
152
CHASSIS FRONT PANEL
116

FIG. 1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HOT-SWAP CONNECTOR
212
214
PC
LAN
12V
3.3V
GND
PC
204
MEMORY MODULE
ETHERNET MAC/PHY
208
FLASH/ PBOOT BIOS
210
ISA BUS
SOUTH BRIDGE
206(b)
4 DIMMS (UP TO 2G SDRAM)
PCI BUS
PCI HEADER
NORTH BRIDGE
206(a)
SYSTEM BUS 100 MHz
PROCESSOR 370 ZIF SOCKET (Pentium III)
202
VOLTAGE REGULATOR
XTAL

FIG.2

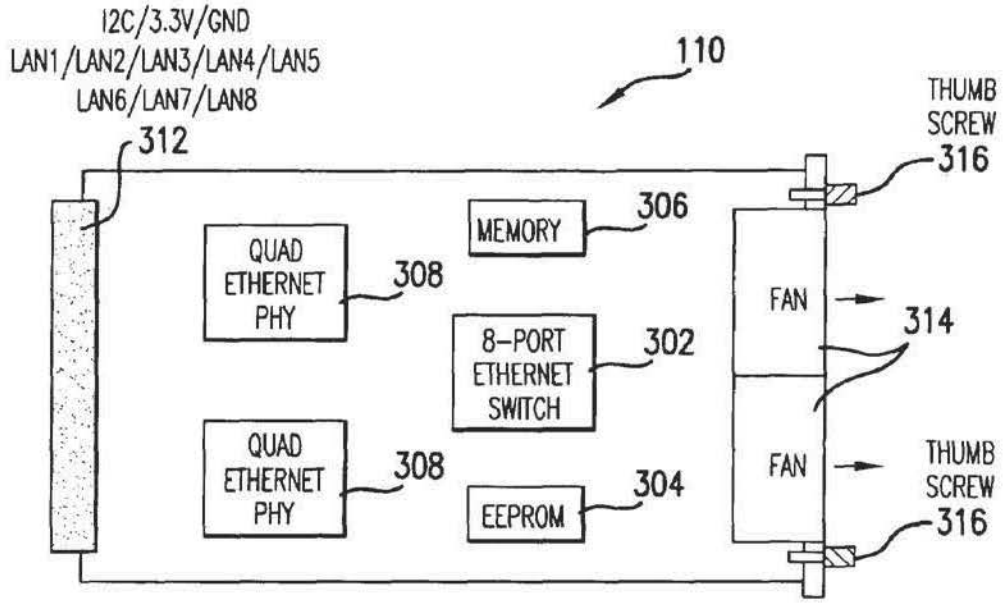


FIG.3

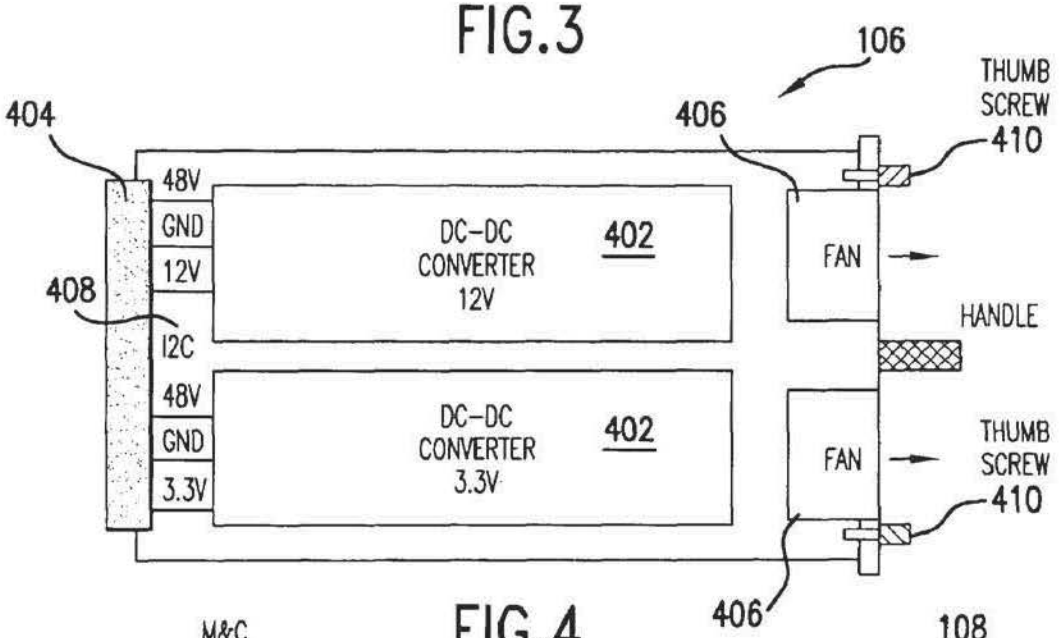


FIG.4

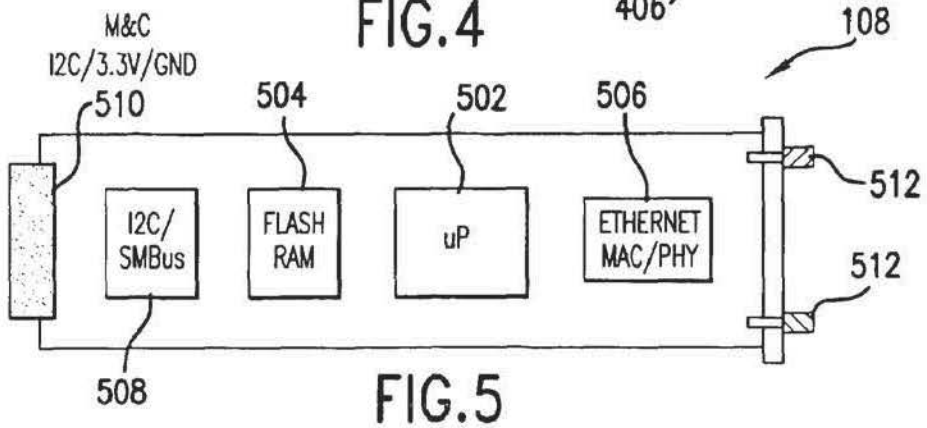
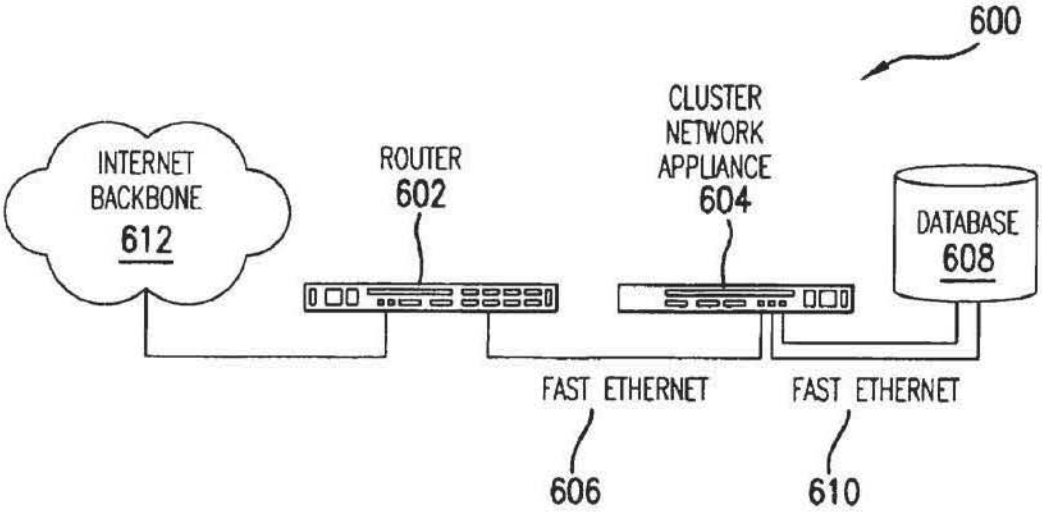


FIG.5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INTERNET BACKBONE 612
ROUTER 602
CLUSTER NETWORK APPLIANCE 604
DATABASE 608
FAST ETHERNET
606
FAST ETHERNET
610

FIG.6

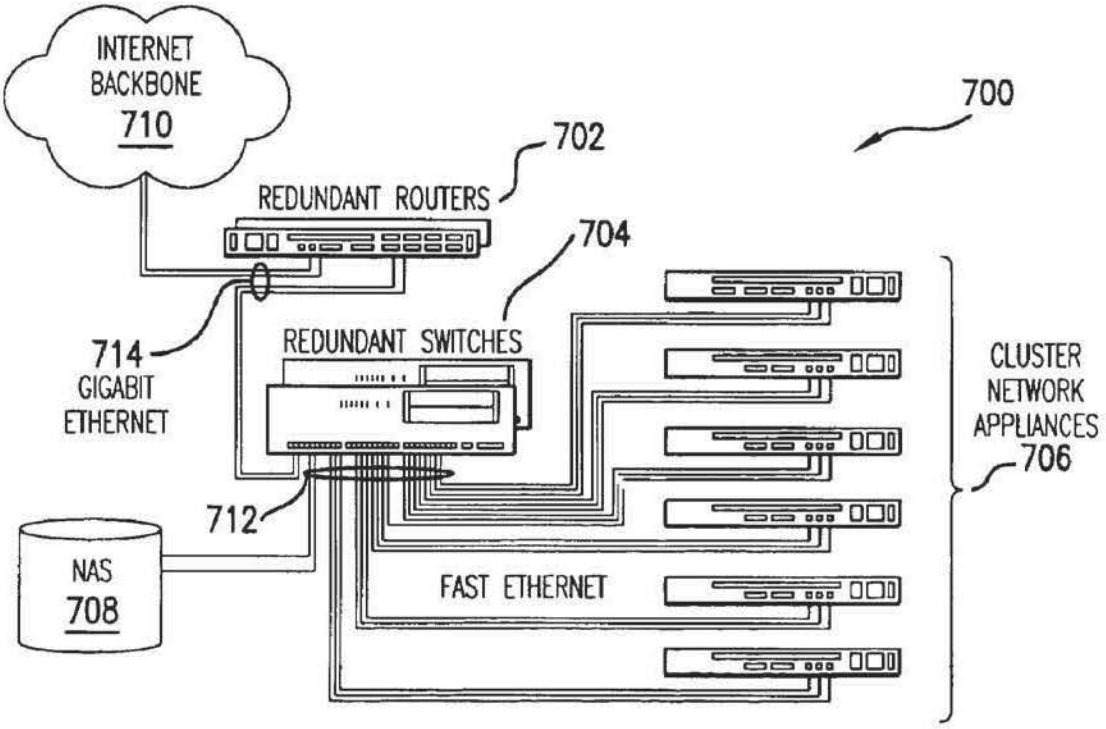
INTERNET BACKBONE 710
700
702
REDUNDANT ROUTERS
704
REDUNDANT SWITCHES
714
GIGABIT ETHERNET
712
NAS 708
FAST ETHERNET
CLUSTER NETWORK APPLIANCES 706

FIG.7

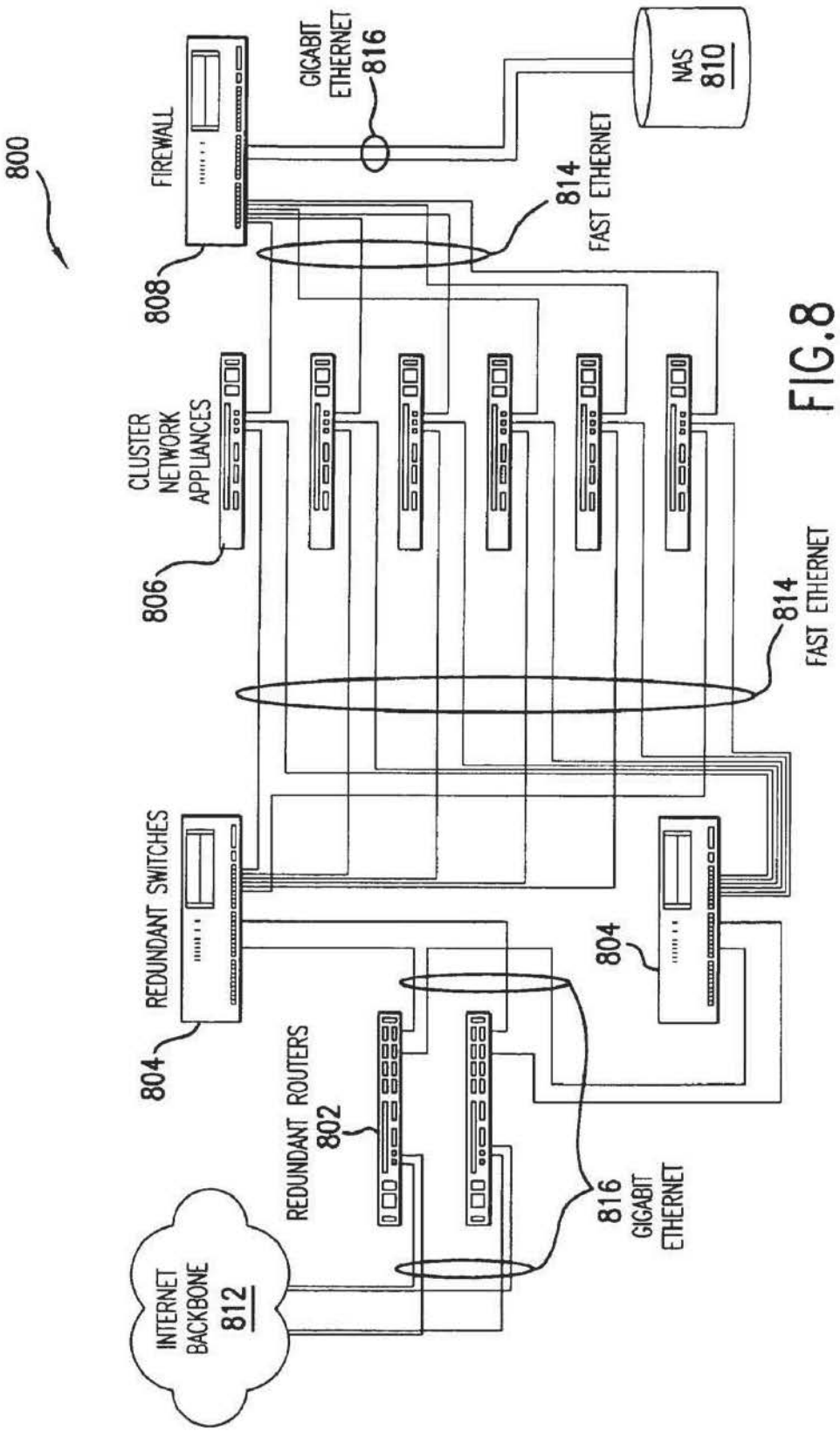
800
FIREWALL
808
GIGABIT ETHERNET
816
NAS
810
814
FAST ETHERNET
CLUSTER NETWORK APPLIANCES
806
814
FAST ETHERNET
REDUNDANT SWITCHES
804
804
REDUNDANT ROUTERS
802
816
GIGABIT ETHERNET
INTERNET BACKBONE
812

FIG.8

CLUSTER COMPONENT NETWORK APPLIANCE SYSTEM AND METHOD FOR ENHANCING FAULT TOLERANCE AND HOT-SWAPPING

This application claims priority from U.S. Provisional Application Ser. No. 60/248,834, filed Nov. 16, 2000. The entirety of that provisional application is incorporated herein by reference.

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention generally relates to fault tolerant computer systems and, more specifically, to a system and method for enhancing fault tolerance and hot swapping in computer systems.

2. Related Art

Computer systems such as file servers and storage servers in computer networks are relied upon by large numbers of users. When a file server or storage server is out of operation, many users are inconvenienced. Thus, technology has been developed which supports maintenance and service of computer systems while they remain operational. One part of maintenance and service includes the replacement of components in the computer systems. "Hot swap" technology allows the replacement of components without turning off the power or resetting the computer system as a whole.

Hot swap enables the insertion and/or removal of components in a computer system while it is still active or operational. In systems that do not support hot swapping of components, each process of component insertion and/or removal requires a complete shutdown of the entire system to prevent damage to other components or to the system. In time critical systems such as communications systems, system downtime is both a financial problem as well as a service quality problem. That is, any downtime means a financial loss and disconnection of service to active lines.

A drawback of hot swapping, however, is it requires trained personnel to insert and/or remove components from a computer system to minimize damages caused by pitting connectors of the components against connectors of the computer system. Another drawback is electrical noise which can adversely affect the performance of the computer system. The noise is caused by the change in current at the instance when connection is made between power pins of a component and corresponding elements of the computer system. The result is voltage transients in the computer system backplane that may cause loss of data, incorrect program execution and damage to delicate hardware components.

Thus, there is a need for a system and method for enhancing fault tolerance and hot swapping in computer systems so as to reduce both the downtime of computer systems and the use of trained personnel to repair and/or maintain computer systems.

SUMMARY OF THE INVENTION

The present invention is directed to a hot swapping computer network appliance operating in mission critical applications where any computer downtime can result in serious consequences. The computer network appliance comprises a hot-swappable CPU module, a hot-swappable power module, a hot-swappable ethernet switch module and a backplane board having a plurality of hot swap mating connectors. Each of the CPU module, power module and ethernet switch module includes a hot swap connector for connecting with a specific hot swap mating connector of the backplane board. The computer network appliance further comprises a chassis providing physical support for the modules and the backplane board. The chassis comprises caddies providing air flow in the chassis. The chassis further comprises bays and slot guides to facilitate mounting and removal of the modules and to ensure proper alignment between the hot swap connectors of the modules and the hot swap mating connectors of the backplane board. The computer network appliance comprises a power connector and a data input/output connector, both of which remain connected during mounting or removal of the modules.

Each of the hot swap connectors of the modules comprises pin connections arranged in a specific pattern. The pins include ground pins, power pins and signal pins. The ground pins of a hot swap connector are connected first to corresponding ground elements of a hot swap mating connector, and the signal pins of the hot swap connector are connected last to corresponding signal elements of the hot swap mating connector so as to reduce brown outs in the computer network appliance.

The CPU module of the invention operates as a stand alone computer. The CPU module comprises hardware BIOS for configuring the CPU module and instructing a network attached storage (NAS) to locate an operating system (OS) from which to boot. The CPU module is configured to boot remotely from an OS located in the NAS without user intervention. This remote booting ability of the CPU module allows the CPU module to run different types of operating systems without the need for a local hard disk drive (HDD), which increases the mean time between failure (MTBF) and decreases the mean time to repair (MTTR) of the computer network appliance.

The invention further provides that each of the hot swap connectors of the modules includes an ethernet connection providing communications to all modules attached to the backplane board.

The power module of the invention comprises dual DC—DC converters that perform direct conversion of a facility DC voltage to voltages required for normal operation in the modules. Features of the DC—DC converters include: allowing the modules in the computer network appliance to accept DC power directly from a battery backup source without requiring power inverters; higher MTBF than a typical switched power supply; use less power and generate less heat than a typical switched power supply; and provide better efficiency than a typical switched power supply in converting an input voltage to desired operational voltages of the modules.

DESCRIPTION OF THE FIGURES

FIG. **1** is an illustration of a cluster computer network appliance arranged on a chassis in accordance with an embodiment of the invention;

FIG. **2** is a block diagram of a CPU module in accordance with an embodiment of the invention;

FIG. **3** illustrates an integrated ethernet switch module in accordance with an embodiment of the invention;

FIG. **4** illustrates a power module in accordance with an embodiment of the invention;

FIG. **5** illustrates a microcontroller module in accordance with an embodiment of the invention;

FIG. **6** illustrates an integration of a cluster computer network appliance, data storage device and standard internet access hardware;

FIG. **7** illustrates a computer system utilizing multiple network appliances, redundant storage and internet access points; and

FIG. **8** illustrates a computer system providing path redundancy and equipment redundancy to achieve high availability.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The following detailed description presents a description of certain embodiments of the present invention. However, the present invention can be embodied in different ways as defined by the claims. In this description, reference is made to the drawings wherein like parts are designated with like numerals throughout.

FIG. **1** is an illustration of a cluster computer network appliance **100** arranged on a chassis **150** in accordance with an embodiment of the invention. The cluster computer network appliance **100** includes a plurality of CPU modules **102**(*a*)–**102**(*e*), a passive backplane board **104** with hot swap mating connectors **124**(*a*)–**124**(*i*), a power module **106**, a microcontroller module **108**, an ethernet switch module **110**, power/ground connectors **112** and ethernet connectors **114**. The cluster computer network appliance **100** fits in a 1.75" tall (1RU) metal chassis that fits in a standard 19" rack. The chassis **150** includes a fold down front panel **116** and supports the modules and backplane board of the invention. The chassis has five bays accessed via the front for inserting the CPU modules **102**(*a*)–**102**(*e*) and three bays accessed via the rear **118** for inserting one each of the power module **106**, the ethernet switch module **110** and the microcontroller module **108**. Each module resides in a caddy **152** of the chassis such that when the module is inserted into the chassis the caddy ensures that the hot swap connectors are aligned. Each of the hot swap connectors used in the modules is specific to corresponding hot swap mating connectors in the backplane board. For normal operation, the chassis must be equipped with at least one CPU module, the power module and the ethernet switch module.

The power/ground connectors **112** provide physical connection for power to the chassis. The ethernet connectors **114** provide data input/output (I/O) to and from the chassis. Power is connected such that should the power module **106** fails, it may be replaced without disconnecting the actual power cabling inside the computer network appliance, which saves time and reduces complexity. Similarly, a failed ethernet switch module **110** may be replaced without disconnecting any of the power or data cables. Heat generated by active elements in each of the modules is dissipated using forced air flow from the front to the rear of the chassis using a push-pull method. Fans **120**(*a*)–**120**(*e*) are provided for each CPU module providing a 1:1 ratio of fan to bay and positioned near the front panel **116** of the chassis to push outside air through the chassis. In the rear of the chassis, multiple fans **122**(*a*)–**122**(*d*) are mated to the back of both the power module **106** and the ethernet switch module **110** to draw heated air out of the chassis.

Each module is designed to be hot swapped from the chassis such that there is no need for on/off switches on either the chassis or the modules. The passive backplane board **104** is equipped with hot swap mating connectors **124**(*a*)–**124**(*i*) for each of the modules to be inserted into the computer network appliance. The chassis is installed and wired for power and data I/O such that power is supplied directly to a module as soon as it is inserted.

In order to avoid chassis power drains (brown outs) caused by instantaneous power short to ground through uncharged board capacitance, the hot swap connectors of the modules (shown in FIG. **1** mated to corresponding hot swap mating connectors **124**(*a*)–**124**(*i*)) are designed to make pin connections in a specific pattern to avoid power drains. Each hot swap connector of a module comprises groups of pins (ground pins, pre-charge power pins, power pins and signal pins) of different length that allow the pins to make connections in a prearranged pattern. The first group of pins to make contact with corresponding elements in a mating connector on the passive backplane board is the ground pins (chassis ground and common ground). The next group of pins to make contact with corresponding elements in the mating connector is the pre-charge power pins. The pre-charge power pins connect to a power plane on a printed circuit board (PCB) through resistors to limit the flow of current while pre-charging the capacitance on the PCB. The next group of pins to make contact with corresponding elements in the mating connector is the power pins. The last group of pins to make contact with corresponding elements in the mating connector is the signal pins. By connecting the pins in this fashion, the computer network appliance of the invention avoids brown outs, arching across pins and false grounds that can damage components in the computer network appliance.

FIG. **2** is a block diagram of a CPU module **102** in accordance with an embodiment of the invention. The CPU modules **102**(*a*)–**102**(*e*) do not have moving parts and components defining a direct user interface. Each CPU module comprises a microprocessor **202**, memory module **204**, bus management chipset including a Northbridge chip **206**(*a*) and a Southbridge chip **206**(*b*), an ethernet interface chip **208**, hardware BIOS **210** and a hot swap connector **212** mounted on a PCB. A PCI bus header is included for development and debugging purposes. Each CPU module functions as a stand alone computer.

The hardware BIOS **210** configures the CPU module for normal operation and instructs the ethernet interface chip **208** where to look on an NAS for the OS from which to boot. This remote boot capability of the CPU module enables the system administrator to direct the module to boot from a specific OS stored in a predetermined location in the NAS. This, in turn, enables the CPU modules in a network to run different types of OS (e.g., Unix, BSD, Linux, and Solaris) and removes the necessity for a local hard disk drive (HDD). Under management software control, a CPU module may be booted with an OS along with an "image" including several pre-installed applications (user defined quantity) stored in an NAS or a storage area network (SAN). This diskless booting of the CPU module allows the CPU to run different OS's and applications at different times. For example, a CPU module may be booted with a first OS and a first set of applications at one time and with a second OS and a second set of applications at another time. In another embodiment of the invention, different CPU modules operating in the same chassis may be booted with different OS's and different applications. In yet another embodiment of the invention, the same OS, applications and user data of one CPU module may be installed in another CPU module so as to provide for hot swapping of a failed CPU module or for installation of a redundant CPU module. Removal of the local HDD is a feature of the invention that allows hot swapping of the CPU modules without rebooting the system.

Once the OS is loaded on the CPU module and is operational, the health of the CPU module can be monitored using an I2C bus **214** that provides status information about the CPU module to the optional microcontroller module **108** as shown in FIG. **1**. Along with information such as CPU

temperature, fan RPM and voltage levels, a watchdog timer is provided in the hardware design to provide a way of determining if the OS is unstable or has crashed. If the OS is unstable or has crashed, then the microcontroller module **108** has the ability to remotely reset the CPU module **102** and log the failure. Such a reset can be configured to take place automatically or manually under the control of the administrator.

The CPU module **102** is configured to remotely boot without user intervention to allow for the removal of unnecessary user interface hardware such as video and standard I/O chipsets. The removal of this hardware and the HDD as described above reduces the complexity of the design and increases the mean time between failure (MTBF) of the hardware while simultaneously lowering the part count (cost) and power consumption of the module. In addition, the network mean time to repair (MTTR) is lowered through the use of the hot swap design and remote OS boot capability of the module because a failed unit can be removed and replaced rather easily and no user interaction is necessitated once a CPU module has been inserted into the chassis. A CPU module can be inserted in any of the bays in the front of the chassis.

Communications to and from each module is made using a standard fast ethernet connection rather than a complicated external bus structure. That is, a single ethernet connection via the hot swap connection of each module allows the module to communicate with other modules connected in the computer network appliance. The pinout of the hot swap connection is limited to ethernet signal path pins, dedicated power and ground pins, and an I2C bus for out-of-band monitoring of the health of the CPU module and remote rebooting of the microprocessor if the OS is determined to be unstable or have crashed. The process of out-of-band monitoring and control of the CPU module is mediated by the microcontroller module **108**. In-band monitoring processes are used to load applications and data and are controlled by direct communications between the management software and the CPU module microprocessor **202**.

As stated above, each CPU module includes a PCI bus header that is provided for debugging and test purposes only. If a CPU module is suspected of being faulty, then it can be removed and plugged into a test fixture that provides video, keyboard, mouse, and HDD access through a cable connection to the PCI bus header. Power and ethernet I/O are accessed through the hot swap connector **212**. In this fashion, the CPU module combined with the test fixture emulates a desktop computer and the CPU module can be debugged accordingly.

Since only a limited number of modules make up the configuration of the computer network appliance, an end user's spare parts inventory is greatly reduced and configuration variability is low. Each module can be easily replaced and does not require a skilled person, and no spare parts need to be inventoried on-site and can be shipped overnight from the supplier. As a result, the computer network appliance MTTR is greatly reduced through the ease of module replacement and the MTBF is high through the simplified design of the CPU module.

A byproduct of using standard fast ethernet as the method of signal I/O for network communications is that heterogeneous CPU modules having different CPU speeds, memory space and bus chipsets may be mounted in the same chassis without affecting the operation of any other CPU module. Specifically, different generations of CPU modules may operate in the same chassis without requiring an update of existing modules.

FIG. **3** illustrates an integrated ethernet switch module **110** in accordance with an embodiment of the invention. The ethernet switch module **110** comprises an ethernet switch **302**, EEPROM **304**, buffer memory **306**, ethernet transceivers **308** and a hot swap connector **312** all mounted on a single PCB. In the preferred embodiment of the invention, the ethernet switch **302** is an unmanaged 8-port ethernet switch. The ethernet switch module **110** operates as a traffic cop for data communications in the computer network appliance, allowing each CPU module to communicate with other CPU modules in the same chassis. The ethernet switch module **110** further includes cooling fans **314** mounted to the rear of the PCB; the cooling fans **314** operate to draw heated air out of the chassis.

Once the ethernet switch module **110** is inserted into the rear of the chassis **150**, it connects to the passive backplane board **104** via the hot swap connector **124**(*h*) to derive power, establish ground and establish all ethernet connections within the computer network appliance. The ethernet switch module **110** is secured to the chassis using thumb screws **316** mounted on the 1RU panel. The ethernet switch module **110** is designed such that if a failure occurs, then the module can be quickly replaced without disconnecting any signal or power cables, thus attaining a low MTTR and allowing the use of less skilled maintenance personnel.

A function of the ethernet switch module **110** is to filter out inappropriate signal traffic so as to limit collisions caused by signal traffic in the computer network appliance. Communications between CPU modules in the same chassis occur without disruption to signal traffic between other CPU modules and the network and does not add to the overall level of network traffic. As a result, the efficiency of the signal bandwidth is increased without sacrificing performance or network cost.

Moreover, the application servers are not signal I/O limited and this allows all network traffic with the computer network appliance to be multiplexed over a switched fast ethernet (up to three connections) and does not require a direct ethernet connection between each CPU module and other modules in the computer network appliance. Consequently, the amount of external wiring required to connect the CPU modules to the computer network appliance is greatly reduced by integrating the switch into the design of the network server appliance. The use of multiple switched ethernet connections permits the computer network appliance to operate with different topologies or software configurations without additional hardware. Since five of the eight switched ethernet ports are dedicated to the five CPU module connections, a typical network connection would dedicate the remaining three ports to a mixture of NAS, network data I/O and an in-band appliance management channel.

FIG. **4** illustrates the power module **106** in accordance with an embodiment of the invention. The power module **106** comprises dual DC—DC converters **402** mounted on a 1RU panel of a printed circuit board, a hot swap connector **404**, cooling fans **406** and thumb screws **410**. The DC—DC converters **402** perform direct conversion of a facility DC voltage (48V) to voltages required for normal operation of the modules that make up the computer network appliance. The hot swap connector **404** operates to draw facility voltage and supply operational voltages to the passive backplane board **104**. The cooling fans **406** operate to draw air out of the chassis across the cooling fins of the heat sinks on the DC—DC converters **402**.

Once the power module **106** is inserted into the rear of the chassis, it connects to the passive backplane board **104** via

the hot swap connector **124**(*f*) to derive facility DC power, establish ground and generate all operational voltages used by the other modules in the computer network appliance. The hot swap connector **404** includes an I2C bus **408** that is used to monitor the health of the power module. The power module is secured to the chassis using thumb screws **410**. The power module is designed such that if a failure occurs, then the power module can be quickly replaced without disconnecting any power cables in the computer network appliance. As a result, the MTTR is lowered and less skilled maintenance personnel may be used.

In typical commercial electronics designs, the portion of the design having the lowest MTBF is the switched power supply. A common practice to overcome this drawback to increase the MTBF is to include redundant power supplies in a design so that if one power supply fails, then the redundant unit automatically backs it up. Because typical commercial electronics power supplies run on alternating current (AC) power, the battery backup system must convert power from its normal direct current (DC) state to AC using power inverters. Power inverters, however, are inefficient because of their fundamental operation (generator hysteresis) in converting power from DC to AC. Power inverters are also expensive and do not scale well should additional power capacity is required. Thus, designing an appliance using DC—DC converters instead of a switched AC power supply would allow an appliance to accept DC power directly from the battery backup source and negate the need for power inverters. That is, an appliance using DC—DC converters alone would not require use of expensive power inverters and increase the overall efficiency of the battery backup system. Another compelling reason to use DC—DC converters in a commercial electronics design is the MTBF of a DC—DC converter is much greater than that of a switched power supply. A DC—DC converter is also more efficient than a power supply in converting the input voltage to the desired operational voltages, which means that the appliance will use less power and generate less heat than a power supply.

FIG. **5** illustrates a microcontroller module **108** in accordance with an embodiment of the invention. The microcontroller module **108** is optional and is not required for normal operation; the microcontroller module **108** is employed for monitoring out-of-band communications and for controlling the computer network appliance modules. The microcontroller module **108** comprises a stand-alone microprocessor **502** running an embedded OS, flash RAM **504** including the OS and application software, a dedicated ethernet chip **506** providing connection to the network, an I2C bus chipset **508**, a hot swap connector **510** and thumb screws **512**.

Once the microcontroller module is inserted into the rear of the chassis, it connects to the passive backplane board **104** via the hot swap connector **124**(*g*) to derive power, establish ground and establish ethernet connection with the computer network appliance. The microcontroller module **108** is secured to the chassis using thumb screws **512** mounted on a 1RU at the rear of the module. The microcontroller module is designed such that if a failure occurs, then the microcontroller module can be quickly replaced without disconnecting any signal or power cables so as to attain a low MTTR and to use less skilled maintenance personnel.

The microcontroller module uses a dedicated ethernet path separate from the network data I/O to remotely poll the health of the power module **106**, the ethernet switch module **108** and the CPU modules **102**(*a*)–**102**(*e*). The microcontroller module communicates with other modules using an I2C bus that gathers status information, logs the results and provides the log to the management software either actively (should a failure is detected) or as part of a routine poll. The microcontroller module **108** also gathers information relating to the voltage levels, CPU temperatures, fan RPMs and CPU module OS stability. In addition, the microcontroller module has the ability to perform a remote reset of a CPU module if the OS of the module is determined to be unstable or have crashed. If the integrated ethernet switch fails, then the dedicated ethernet path may still be able to pinpoint the failure and differentiate the failure of the switch from an overall failure of the chassis. The dedicated ethernet path further informs the system administrator of the failure so as to facilitate a timely fix of the switch or a module on the computer network appliance.

FIG. **6** illustrates a system **600** integrating a computer network appliance, a data storage device and standard internet access hardware. The system **600** comprises a router **602**, a computer network appliance **604** connected to the router **602** via a fast ethernet connection **606**, network database **608** connected to the computer network appliance **604** via a fast ethernet connection **610**, and internet backbone **612**. Data switching is performed in the computer network appliance **604**. This simplistic representation provides a framework for more sophisticated forms of clustering configurations based upon specific design criteria, such as availability and fault tolerance.

FIG. **7** illustrates a system **700** integrating multiple computer network appliances, a storage device and redundant internet access hardware. The system **700** comprises a plurality of routers **702**, a plurality of redundant switches **704**, a plurality or cluster of computer network appliances **706**, NAS **708** and internet backbone **710**. Routers **702**, computer network appliances **706** and NAS **708** are connected to redundant switches **704** by fast ethernet connection **712**. A feature of system **700** is the system layer remains flat in that access to the routers, network appliances and NAS are all wired through the redundant switches **704**. The system **700** provides a simple and easy to install/maintain framework for redundant network cabling by minimizing the amount of equipment external to the cluster of computer network appliances. In order to handle the increased traffic associated with the large number of servers in the cluster of computer network appliances, redundant gigabit ethernet paths **714** are introduced to connect internet backbone **710** and redundant switches **704** to redundant routers **702** as illustrated in FIG. **7**.

Alternate forms of configurations can be generated to add other requirements to the system such as high availability and database security. FIG. **8** illustrates a system **800** providing path redundancy and equipment redundancy to achieve high availability. The system **800** comprises **800** a plurality of routers **802**, a plurality of redundant switches **804**, a plurality of cluster computer network appliances **806**, a firewall **808**, NAS **810** and internet backbone **812**. Redundant switches **804** and firewall **808** are connected to cluster computer network appliances **806** by fast ethernet connection **814**. Firewall **808** secures NAS **810** from direct access of internet connection by accepting only secure connections. The increased traffic associated with the large number of servers in the cluster of computer network appliances is addressed by introducing redundant gigabit ethernet paths **816** as the front-end connection between internet backbone **812** and redundant routers **802** and between redundant routers **802** and redundant switches **804**, and as the back-end connection between firewall **808** and NAS **810**.

What is claimed is:

1. A computer network appliance, comprising:

a plurality of hot-swappable CPU modules, wherein each CPU module is a stand-alone independently-functioning computer;

a hot-swappable power module;

a hot-swappable ethernet switch module; and

a backplane board having a plurality of hot swap mating connectors,

wherein the at least one backplane board interconnects each of the CPU modules with the at least one power module and the at least one ethernet switch module, such that the at least one power module and the at least one ethernet switch module can be used as a shared resource by the plurality of CPU modules.

2. The computer network appliance of claim 1, further comprising a chassis providing physical support for a CPU module, the power module, the ethernet switch module and the backplane board.

3. The computer network appliance of claim 2, wherein the chassis comprises caddies providing air flow from the front to the rear of the chassis.

4. The computer network appliance of claim 2, wherein the chassis comprises bays and slot guides to facilitate mounting and removal of the modules and to ensure proper alignment between hot swap connectors of the modules and the hot swap mating connectors of the backplane board.

5. The computer network appliance of claim 2, wherein the modules and the chassis are free of on/off switches.

6. The computer network appliance of claim 1, further comprising a power connector and a data input/output connector.

7. The computer network appliance of claim 6, wherein the data input/output connector is a standard ethernet connector allowing heterogeneous CPU modules of differing CPU architectures mounted on a same chassis to communicate with each other.

8. The computer network appliance of claim 1, wherein each of the hot swap connectors of the modules comprises pin connections arranged in a specific pattern and includes ground pins, pre-charge power pins, power pins and signal pins.

9. The computer network appliance of claim 8, wherein the ground pins of a hot swap connector of a module make contact with corresponding ground elements of a hot swap mating connector of the backplane board.

10. The computer network appliance of claim 9, wherein pre-charge power pins of the hot swap connector of the module make contact with corresponding pre-charge power elements of the hot swap mating connector of the backplane board after the ground pins have made contact.

11. The computer network appliance of claim 10, wherein the power pins of the hot swap connector of the module make contact with corresponding power elements of the hot swap mating connector of the backplane board after the pre-charge power pins have made contact.

12. The computer network appliance of claim 11, wherein signal pins of the hot swap connector of the module make contact with corresponding signal elements of the hot swap mating connector of the backplane board after the power pins have made contact.

13. The computer network appliance of claim 1, wherein a CPU module operates as a stand alone computer.

14. The computer network appliance of claim 1, wherein a CPU module comprises hardware BIOS for configuring the CPU module and instructing a network attached storage (NAS) to locate an operating system (OS) from which to boot.

15. The computer network appliance of claim 1, wherein a CPU module is configured to boot remotely from an OS located in an NAS, and wherein the computer network appliance is free of a local hard disk drive (HDD).

16. The computer network appliance of claim 15, wherein remote booting of a CPU module allows the CPU module to run different types of operating systems.

17. The computer network appliance of claim 15, wherein effects of a lack of a local HDD include increased mean time between failure (MTBF) and decreased mean time to repair (MTTR) of the computer network appliance.

18. The computer network appliance of claim 1, wherein each of a plurality of hot swap connectors of the modules includes an ethernet connection providing communications to all modules attached to the backplane board.

19. The computer network appliance of claim 18, wherein an ethernet connection is a switched fast ethernet connection.

20. A computer network appliance comprising:

a hot-swappable CPU module;

a hot-swappable power module;

a hot-swappable ethernet switch module; and

a backplane board having a plurality of hot swap mating connectors; and

a microcontroller module and a dedicated ethernet path, wherein the dedicated ethernet path is separate from a switched fast ethernet connection and provides the microcontroller module with a connection to remotely poll the CPU module, the power module and the ethernet switch module;

wherein each of the CPU module, the power module and the ethernet switch module includes a hot swap connector for connecting with a specific hot swap mating connector of the backplane board.

21. The computer network appliance of claim 20, wherein the dedicated ethernet path is an I2C bus.

22. The computer network appliance of claim 20, wherein the microcontroller module polls the CPU module on the status of an OS.

23. The computer network appliance of claim 22, wherein the microcontroller module performs a remote reset of the CPU module if the OS of the CPU module is determined to be unstable or have crashed.

24. A computer network appliance, comprising:

a hot-swappable CPU module;

a hot-swappable power module;

a hot-swappable ethernet switch module; and

a backplane board having a plurality of hot swap mating connectors;

wherein each of the CPU module, the power module and the ethernet switch module includes a hot swap connector for connecting with a specific hot swap mating connector of the backplane board;

wherein the ethernet switch module filters communications internal and external to the computer network appliance to limit collisions caused by communications traffic.

25. The computer network appliance of claim 18, wherein different software configurations are used in CPU modules free of additional hardware.

26. The computer network appliance of claim 1, wherein the power module comprises dual DC—DC converters performing direct conversion of a facility DC voltage to voltages required for normal operation in the modules.

27. The computer network appliance of claim 26, wherein the DC—DC converters allow the modules to accept DC power directly from a battery backup source free of power inverters.

28. The computer network appliance of claim 26, wherein effects of using the DC—DC converters in the power module include increased MTBF and decreased MTTR in the computer network appliance as compared to a similar computer network appliance using a switched power supply.

29. The computer network appliance of claim 26, wherein the computer network appliance uses less power and generates less heat due to the use of the DC—DC converters in the power module as compared to a similar computer network appliance using a switched power supply.

30. A method of mounting a plurality of hot-swappable CPU modules in a computer network appliance, wherein each CPU module is an independently-functioning stand-alone computer, each CPU module comprising a hot swap connector including ground pins, power pins and signal pins, the computer network appliance including a backplane board having hot swap mating connectors, the method comprising:

connecting the ground pins of the hot swap connector with corresponding ground elements of a hot swap mating connector of the backplane board;

connecting the power pins of the hot swap connector with corresponding power elements of the hot swap mating connector of the backplane board after the ground pins have made contact; and

connecting the signal pins of the hot swap connector of the module with corresponding signal elements of the hot swap mating connector of the backplane board after the power pins have made contact;

wherein a backplane board interconnects each of the CPU modules with the ground elements, power elements, and signal elements, such that the power module and the ethernet switch module can be used as a shared resource by the plurality of CPU modules.

31. The method of claim 30, wherein connecting the ground pins first and the signal pins last reduce brown outs in the computer network appliance.

32. A method of interconnecting a plurality of hot swapping CPU modules in a computer network appliance, wherein each CPU module is an independently-functioning computer, comprising (1) a chassis having a plurality of bays for different modules, (2) a backplane board having a plurality of mating connectors, (3) a power connector and (4) a data input/output connector, the method comprising:

placing a module having a hot swap connector in a corresponding bay of the chassis; and

inserting the module into the chassis by connecting the hot swap connector with a mating connector of the backplane board,

wherein the power connector and the data input/output connector remain connected in the computer network appliance during mounting of the module such that the power connector and the data input/output connector can be used as a shared resource by the plurality of CPU modules.

33. The method of claim 32, further comprising removing the module from the chassis by disconnecting the hot swap connector from the mating connector of the backplane board, wherein the power connector and the data input/output connector remain connected in the computer network appliance during removal of the module.

34. The method of claim 30, further comprising remotely booting a CPU module in a computer network appliance, comprising:

locating an OS in an NAS to boot the CPU module; and

remotely booting the CPU module using the located OS;

wherein the computer network appliance is free of a local HDD in remotely booting the CPU module.

35. The method of claim 34, wherein the remote booting of the CPU module allows the CPU module to run different types of operating systems.

36. The method of claim 34, wherein effects of a lack of a local HDD include increased MTBF and decreased MTTR of the computer network appliance.

* * * * *

(12) **INTER PARTES REVIEW CERTIFICATE** (1100th)
United States Patent
Derrico et al.

(10) **Number: US 6,948,021 K1**
(45) **Certificate Issued: Jan. 10, 2019**

(54) **CLUSTER COMPONENT NETWORK APPLIANCE SYSTEM AND METHOD FOR ENHANCING FAULT TOLERANCE AND HOT-SWAPPING**

(75) Inventors: **Joel Brian Derrico**; **Paul Jonathan Freet**

(73) Assignee: **RACEMI, INC.**

Trial Number:

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Patent No.: **6,948,021**
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Filed: **Nov. 16, 2001**

The results of IPR2013-00440 are reflected in this inter partes review certificate under 35 U.S.C. 318(b).

AS A RESULT OF THE INTER PARTES REVIEW PROCEEDING, IT HAS BEEN DETERMINED THAT:

Claims **3**, **14-17**, **20** and **34-36** are found patentable.

Claims **1-2**, **4**, **6-13**, **18-19**, **30** are cancelled.

* * * * *

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

CERTIFICATE OF SERVICE

Case Number 2022-1620

Short Case Caption Acceleron, LLC v. Dell Inc.

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UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMITATIONS

Case Number: 2022-1620

Short Case Caption: Acceleron, LLC v. Dell Inc.

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UNITED STATES COURT OF APPEALS
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